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ACUTE ARTERIAL OBSTRUCTION FROM ARTERITIS*

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COMPLETE occlusion of the lumen of a large arterial trunk by an inflammatory process within the vessel, produces symptoms not only from the failure of blood supply, but also very probably from the stimulation of the sympathetic nerve supply of the vessel by the inflammatory process in its walls. The occurrence of acute arteritis is very rare, yet the condition is one which may be readily recognized when present, and its symptoms considerably improved by appropriate treatment. The writer has had the opportunity of operating in the last few years upon two cases in the Lahey Clinic which are the basis of this report.

The subject of localized arterial obliteration has been studied extensively by René Leriche, and he and his associates have carried out a considerable research on this problem. In addition, scattered case reports and discussions have been made by Braeucker in Germany, Ryle in England, and Kramer in the United States. Leriche believes that the occlusion of an artery by an inflammatory process in its walls causes a constant source of excitation of the sympathetic nerve supply of the artery and of the arterial tree beyond. In cases of acute arteritis, therefore, certain signs and symptoms will occur which are due to the loss of blood supply, and others will appear because of constant stimulation of the vasomotor sympathetic nerve fibres in the artery. Leriche says the obliterated artery ceases to be an artery, and becomes a diseased sympathetic nerve.

Acute arteritis may arise during the course of overwhelming general infections, such as septicemia or pneumonia. Its occurrence no doubt is related to a slowing of the rate of blood flow in the artery, plus the presence of numerous bacteria in the blood stream. Occasionally in such cases several arteries are involved. This type of arteritis is usually a terminal event noted in the last hours of a serious illness or at the autopsy table, and does not concern us particularly in this study.

Acute arteritis may occur, it is thought, as a localized infection in the arterial wall. Almost always this is secondary to an infection elsewhere in the body which may be far removed from the involved artery. Thus in the first case here reported, the patient had had a persistent, severe, non-specific prostatitis for many months preceding his arteritis. In other patients, infection adjacent to the involved artery, as in a septic amputation stump, has been considered as the etiologic factor.

Trauma received over an artery may well be a factor in acute arteritis and repeated case reports in the literature have associated an injury with the condition. Thus a blow on the dorsum of the foot was reported in one case, a fracture in another, and the use of crutches was noted in several other instances, including my second case. Whether the trauma produces a local injury in the arterial wall which promotes an intramural clot, or whether it merely produces an area in which local resistance to infection is reduced, is a debatable matter.

This present discussion does not include cases of chronic arterial occlusion, such as syphilitic endarteritis, arteriosclerotic and atheromatous involvement of vessels and Buerger's disease.

The symptoms of acute arteritis are slow in onset and gradually become more pronounced as the process involves more of the vessel and its branches. The patient notices first a marked weakness of the arm or leg. This becomes worse with exercise; for example, our first patient found that it was difficult for him to tie his necktie or raise a window. The extremity becomes cold and with any exercise becomes blanched. In some cases cyanosis is present in the hand or foot of the affected side and excessive sweating of the extremity may be noted.

On examination it is noted that the pulsation in the involved artery is absent. The vessel can usually be felt as a tendinous cord which is definitely tender in the early stages of the disease. Blood pressure readings show no blood pressure on the affected side and a pressure normal for the individual on the opposite side. Changes in sensation occur late in the course of the disease, and trophic ulcers that are very painful and chronic have been reported. Atrophy of the muscles of the limb is, of course, associated with long disuse and diminished blood supply of the part.

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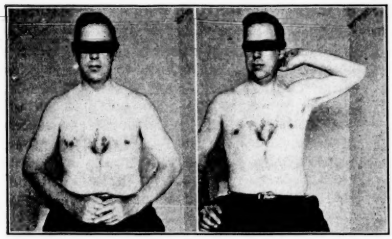
CASE 1. Mr. E. K. was first seen in March, 1928, because of a nonspecific prostatitis and urethritis. He was thirty-five years of age. He received treatment for the prostatitis at irregular intervals for three years. In April, 1931 he returned because the prostatitis was more severe, and in addition he had noted pain and distress in his left hand. His grip was weak and he could not use his hand even for such a small matter as turning a doorknob.

In August, 1931 the pain in the left hand and arm grew more severe, and blanching, coldness, and occasional cyanosis of the hand were noted. The pain in the arm had progressed upward and the patient noted tenderness over the radial and brachial arteries.

Examination showed the left arm and hand to be cold, perspiring and slightly cyanotic. With any motion of the fingers blanching occurred. No radial pulse or brachial pulse was felt. The brachial artery could be palpated as a deep, swollen, tender cord. The subclavian and axillary arteries were pulsating normally. No blood pressure could be obtained on the left side. On the right it was 145/105.



CASE 1. Photographs four years after partial resection left brachial artery for acute arteritis. No radial pulse. Diminished circulation of left arm and partial disability noted with heavy work. Arteritis had extended quite high before operation.

X-rays of the cervical spine showed an area of calcification lateral to the seventh cervical vertebra on the left. The Wassermann test was negative.

Dr. Arthur W. Allen of Boston kindly saw this patient in consultation with me, and first suggested the true diagnosis of acute arteritis.

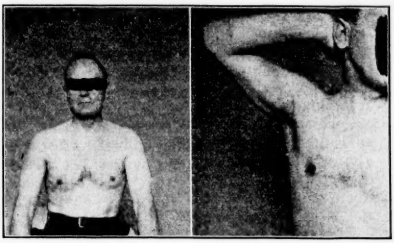
On September 3, 1931 I explored the left supraclavicular area on this patient. No glands were found that could be interfering with the subclavian vessel. The scalene tendon did not seem to press unduly on the subclavian artery, but some of its fibres were cut. Recovery from this operation was uneventful but there was no improvement in the left hand or arm.

On September 9, 1931, therefore, I explored the left brachial artery. This was found to be a firm cord with no pulsation and with definite edema surrounding it. Two inches or more of the artery were removed, and about the same amount of the brachial vein. The brachial vein was apparently normal. Microscopic study of the sections by Dr. Shields Warren showed: Chronic periarteritis. Antemortem thrombus formed in streaming blood. Bacteriological examination showed no growth.

Within three days after this operation all prickling and burning in the left arm and hand had ceased. The unusual sweating also disappeared and the color of the extremity was good. The arm or hand could be moved for two minutes with no pain, and this ability to use the arm increased rapidly. Three years after the operation the patient had but slight disability in his left hand or arm. He still had no pulse that could be felt in the wrist, and no blood pressure reading was audible, but otherwise examination was negative.

CASE 2. Mr. I. S., aged forty-six, was first seen in September, 1934. He stated that five weeks before he had noted soreness in his right index finger and that later blanching and numbness in all his fingers on the right hand appeared. His right arm tired very rapidly with any use so that he could neither do his work nor use the crutch which he required for walking. The patient had, himself, noticed the absence of his radial pulse, and had followed the course of the ascending obliteration of this artery from day to day.

This man had had infantile paralysis when a child



CASE 2. Six months after operation for acute arteritis. Good radial pulse. Normal use of arm. Operation done early in course of disease before process had reached high level in brachial artery.

and had a postinfantile paralysis of his right leg. He had used a single crutch for over thirty years.

On examination it was noted that the right hand and forearm were colder than the left. All motions of the joints were normal and there was no swelling. Blanching of the hand and fingers followed movements of these parts. Slight cyanosis was present when the arm was at rest. No pulse or blood pressure was noted in the right arm. The blood pressure in the left arm was 196/126. The subclavian, axillary and upper brachial artery could be felt with normal pulsations. At the junction of the upper and middle thirds of the right brachial artery, pulsation ceased and the artery could be felt as a solid, firm, tender cord below this point. Blood counts and smears were normal. A diagnosis of acute arteritis, possibly related to the trauma of his crutch, was made, and operation was advised.

On September 25, 1934 the right brachial artery was exposed for a distance of six inches. It was found to be a firm, nonpulsating cord with definite edema in its wall and in the contiguous tissues. Two inches of the artery were removed. Its lumen was filled with a thrombus.

Dr. Shields Warren's diagnosis from the specimen was as follows: Subacute periarteritis with thrombosis. Smears and cultures were negative, save for a few diphtheroids.

The day following the operation, the pain and numbness had disappeared from this man's hand. He said he could move his fingers and hand with much less distress. Improvement was rapid and continuous. A month after operation he reported that he had no further pain in the arm, and that he could use it for long periods without tiring. Four months after operation he was working again with no disability. Recent examination shows a good radial pulse in the right wrist and a normal blood pressure in the

right arm. He complained, however, of a prickling and burning sensation in his hands and feet. Study showed that he was suffering from a chronic myelogenous leukemia in an acute phase. Review of the blood examination made six months before, however, showed a normal blood picture at the time of the onset of acute arteritis. It seems unlikely, therefore, that one can associate the leukemia in any way with the obliterating arteritis.

From the experience gained in these two cases, it appears that resection of part of an occluded artery as Leriche suggests has a beneficial effect both on the trophic disturbances in the limb and the establishment of a collateral circulation. Very probably the increase in the blood supply following arteriectomy is due to paralysis of the vasomotor nerves to the accessory arteries of the part. Leriche and his assistants have carried out interesting experiments to demonstrate this fact. Excellent collateral circulation usually follows the resection of major arteries in dogs, but gangrene frequently followed simple ligation of the same vessels. Leriche recommends resection of the obliterated artery for certain painful amputation stumps when the vessels were ligated in continuity, for trophic ulcers on amputation stumps, and for localized arteritis and recent thrombosis in arteriosclerosis. He believes the best results occur when the entire obliterated portion of the artery can be removed. He does not recommend the procedure in Buerger's disease.

The operative procedure in each of my cases was limited to the removal of but a short piece (two inches) of the thrombosed vessel. No attempt was made to remove the entire artery, and I should in the future hesitate to undertake such a procedure, first, because it does not appear necessary for good results, and, secondly, because such an extensive dissection might well injure some of the collateral arteries.

The end-results in the first case were not so good as in the second case. This, I believe, was due to the delay in recognition of the pathology in case 1 until the process had advanced well up the brachial artery to involve more of the main arterial trunk. Early interference in case 2 gave a better opportunity for the development of a good collateral circulation.

One must be impressed in these two cases with the apparent relation of the sympathetic nerves of a main artery to many of the symptoms and signs which follow its occlusion. In a recent case of guillotine amputation for diabetic gangrene, I had occasion to tie the common femoral artery just below Poupart's ligament for secondary hemorrhage in the infected stump. When the vessel was ligated, an inch or more of the artery was removed. This adds but a moment to the operation. Following this procedure there was no apparent interference with the blood supply of the stump, and within a few days there was frank oozing from raw tissue edges. Death occurred some weeks later from septicemia, but the blood supply of the stump remained good during life. It may well be desirable in the future to remove a section of the artery when ligation of a major vessel is necessary, as recommended by Leriche and others. By this, one may not only avoid the trophic disturbances that sometimes follow a simple ligation, but may also improve the collateral circulation by paralyzing the vasospastic sympathetic nerves in the main artery.

From the experience gained in these cases it appears that resection of part of an occluded arterial trunk aids the establishment of a collateral circulation and overcomes the symptoms arising from the stimulation of the sympathetic nerves of a diseased artery.

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DISCUSSION

DR. ARTHUR W. ALLEN, Boston, Mass.: *Mr. President and Gentlemen*—I regret that I can add very little to this interesting but rare condition. I believe it is quite rare because I have not seen any other patient that had the diagnosis proved, except this one that I was fortunate enough to see with Dr. Clute.

It seems to me that, if we were on the alert for such cases, perhaps quite a number might be detected.

I believe the logical way to look at this subject from the standpoint of etiology is that it probably is a combination of two factors, one, infection, which may be slight, mild, generalized, overlooked. The other is trauma. I do not believe there was any history of trauma in this first case, but sometimes trauma, even so slight that it may not be recalled, will produce something that is very like this in the veins. Such instances have occurred after the swinging of a golf club or a strenuous basketball game.

The other interesting feature about it is that it is not necessary to eradicate all of the infection. Dr. Clute has demonstrated that, by removal of a comparatively small segment of these vessels, the symptoms disappear. This interests me because it shows that the method of cure must come about not through the removal of the infection, but through some other channel, most likely the interruption of the sympathetic nerve pathways.

There isn't the slightest question but that you can interrupt the sympathetic pathways temporarily by dividing the vessel and get a temporary boost in the peripheral circulation. This has been demonstrated in a good many instances and in a number of conditions. Sometimes this temporary boost, by tiding a patient over the critical period, pain that has been present a long time, may not return.

DR. JOHN HOMANS, Boston, Mass.: Dr. Clute has called attention to the fact that some of these cases are traumatic and some of them are due to infections at a distance—infection of a nonsuppurative sort which affects the whole arterial wall.

I think most of Leriche's cases were frankly trau-

matic and many were war injuries, some quite complicated, having nerve injuries in addition. I believe, therefore, that the men who see many badly crushed limbs will see perhaps more of this lesion, if they look for it, than the rest of us.

There is one point which is perhaps a theoretical consideration only. Dr. Clute is doubtless aware of the fact that sympathetic fibers do not progress along the arteries for a very great distance. But what do progress along the arteries are sensory filaments from the periphery, and although no one is sure about this, it would appear that the interruption of painful sensory impulses passing from this inflamed area may be the factor which abolishes reflex vasomotor constriction in the extremity.

I do not think that those who have studied the subject and believe in the absence of any continuous vasomotor supply running down an artery, would agree that the mechanism of improvement from resecting an artery was what Leriche has thought it to be. But at any rate Leriche is to be thanked for calling atention to the fact that if one takes out a block of artery, one in some way often abolishes peripheral vasomotor spasm.

I think Dr. Clute's experience abundantly confirms that.

HYPERGLYCEMIA AND PARESIS*

Report of Two Cases

BY L. MINOR BLACKFORD, M.D.,† AND JOHN H. VENABLE, M.D.†

SOME of the mystery surrounding diabetes, one of the oldest diseases in medical history, seemed to have been cleared up in 1857 when Claude Bernard performed his famous piqûre of the floor of the fourth ventricle. The following year Leudet found a gumma of this region in a case of symptomatic diabetes. For some forty years after this the question of the etiologic relationship of syphilis to diabetes was kept constantly alive. In 1899, Minkowski discovered almost accidentally that a pancreatectomized dog died rapidly with diabetes. With the establishment of the rôle of the insular tissue in diabetes, the possible etiologic importance of syphilis in disturbances of carbohydrate metabolism subsided to perhaps too great an extent.

In 1929, Lemann, after an exhaustive review of the literature and the study of some original cases, concluded that syphilis of the pancreas in exceedingly rare cases might result in the diabetic syndrome, though coexistent syphilis and diabetes are more often independent. Lemann assembled about a dozen cases from the literature in which it appeared that the clinical picture of diabetes was due to syphilis of the central nervous system, though only Leudet was able to offer postmortem evidence. Dickinson, in 1874, stated, "Syphilitic changes within the skull can undoubtedly be the cause of diabetes." Labbé and Touflet said, in 1923, "It is certain that temporary glycosuria caused by lesions of the nerve centers at the base of the brain—syphilitic or not—do exist; it is probable that certain cerebral lesions can produce glycosuria in relation to permanent disturbance of glycoregulation. It is not, however, demonstrated that syphilis can cause a true diabetes by producing lesions of the nerve centers. Nervous diabetes, syphilitic or not, is extremely rare."

In a recent book, Cushing pointed out that the frequent association of acromegaly with diabetes mellitus first suggested relationship between the pituitary body and carbohydrate metabolism. Later experimental and clinical studies of hypopituitarism showed a surprisingly high tolerance for sugars. He has suggested that the hypothalamic region is the point of origin of glycogenolytic responses rather than the hypophysis itself.

Byrom and Russell have reported the case of an ependymal cyst of the third ventricle associated with diabetes mellitus. While granting that it could not be unequivocally proved that the association was not a coincidence, yet in the light of the connection known to exist between hypothalamic nuclei and the sympathetic nervous system, they suggested that "chronic irritation of the gray matter of that region may have caused a sympathetic hyperglycemia of sufficient degree and duration to initiate progressive diabetes mellitus in a patient congenitally predisposed to the disease."

Bagley has reported a case in which with the electrosurgical unit he removed a meningioma growing from the dura at the foramen magnum and projecting into the fourth ventricle. The patient had been treated for diabetes before the diagnosis of brain tumor was made. In the first few postoperative days, among other manifestations his blood sugar ranged as high as 273 mg. per 100 cc. of blood. "From about the tenth day there was rapid improvement and he has continued to do well with no glycosuria or other evidence of diabetes."

The presence of hyperglycemia and glycosuria in the presence of subarachnoid hemorrhage has been commented on frequently.

These references suffice to establish that disturbances of the base of the brain can cause increase in blood sugar. In spite of the paucity of pathologic data, it may be assumed that late

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syphilis of the central nervous system can affect the same basal nuclei.

REPORT OF CASES

CASE 1.—M. S., an illiterate colored woman, aged forty-seven, was brought into the hospital in a convulsive state the night of May 1, 1932. Her relatives said that she had had severe headaches for many years, that she had been feeling badly for some weeks, with shortness of breath, cough and retrosternal pain on exertion. Four hours before admission she had started to build a fire when her hands began to tremble and jerk. A few seconds later she was seized with a generalized convulsion and there had been some bleeding from the mouth; she had had repeated convulsions since.

The pupils reacted sluggishly to light and the patellar reflexes were hyperactive. Catheterized urine on admission showed "4 plus sugar, with acetone and diacetic acid"; blood sugar was 377 mg. per 100 cc. She was thought to be in a diabetic crisis of some sort and was treated accordingly. Within twenty-four hours the urinalysis was negative and blood sugar within normal limits. Spinal fluid taken on admission gave a strongly positive Wassermann reaction, an increase (2 plus) in globulin and a paretic curve with 50 cells. The Wassermann reaction of the blood was strongly positive then and it remained so during the rest of the time that she was under observation.

Antisyphilitic treatment with bismuth and potassium iodide was begun May 27 and continued at her convenience for seventeen months. There was prompt and marked subjective improvement, with gain in weight, and the headache cleared up. July 14, 1933, she was brought to the clinic irrational and was admitted to the hospital. Hemiplegia on the left rapidly cleared up and she was dismissed in a few days.

She had many urinalyses after her first admission and none, after May 27, 1932, showed the presence of sugar. Her highest fasting blood sugar was 140. She restricted the carbohydrates of her diet. The patient did not return for further antisyphilitic treatment after Nov. 2, 1933. One of us saw her from time to time during the following year and it appeared that there was further disintegration of what intelligence she had and that she continued to have occasional convulsions, sometimes with transient paralysis.

She had been married thirty-two years and stated that her nine living children represented all of her pregnancies. Two of these, however, had treatment for syphilis in early childhood.

CASE 2.—F. W., another illiterate colored woman about the same age as Case 1, was admitted to the hospital Aug. 21, 1930, in a convulsive state. Her sister stated that she had seemed "all right" when she returned from work at 7 P.M. She went to bed promptly, but about three hours later was seized with a convulsion. After several convulsions they called the ambulance. Further inquiry revealed that she had been noticeably irritable for many months and had often walked around aimlessly much of the day. She had always been very fond of sweets but there had been no increased thirst. Urinalysis on admission was reported "sugar 4 plus, diacetic acid and acetone 2 plus." Many subsequent urinalyses were negative. Her blood sugar on admission was 250 mg. per 100 cc. Insulin in large amounts was administered and she regained consciousness within a few hours. The Wassermann reaction of the blood on the first admission was reported negative. It was noted, however, that "the pupils react very little to light".

She was admitted to the hospital a second time a year later on account of vague pains in back and hips. At that time blood sugar was 100 mg.

In January, 1933, the presence of Argyll Robertson pupils and of markedly hyperactive knee jerks evidenced syphilis of the central nervous system. The Wassermann reaction of the blood then and on two subsequent occasions was strongly positive. The spinal fluid also gave a positive reaction, as well as a paretic curve. After a few injections of bismuth she volunteered that her head no longer ached.

On Feb. 10, 1933, a dextrose tolerance test was done with the following result:

Fasting blood sugar 10 a. m.	83 mg.
Dextrose administered	
Blood sugar at 10.30 a.m.	142
at 11	222
at noon	275
at 1 p.m.	200

She discontinued treatment after the eighth dose of bismuth on February 28. A few weeks later she skinned her shin and an ugly ulcer developed. She returned to the dispensary on April 14 and received another dose of bismuth and a bottle of potassium iodide. The ulcer promptly healed. In the summer she reported for seven additional injections of bismuth, but then the treatment was interrupted when she broke her left humerus. The bone knit uneventfully and she returned for her sixteenth dose of bismuth on Dec. 5, 1933. We were unable to get in contact with her again.

She died on Sept. 2, 1934. According to her sister her appetite remained excellent to the end and she had grown very fat at the time of her sudden death, the result of a "stroke".

DISCUSSION

The case reports are submitted not without trepidation. It is to our infinite regret that we could not secure greater coöperation from the patients or their relatives. Since one was buried before we knew of her death and the other has been lost for more than a year, pathologic study is obviously impossible. Both women were admitted to the hospital at night and the house officers, confronted with a grave emergency, can perhaps be excused for considering the hyperglycemia of diabetic origin.

When M. S. was referred to the Special Syphilis Clinic with the diagnosis of paresis and diabetes, the diagnoses were accepted without question. When eight months later F. W. was first seen in the dispensary, the evidence of syphilis of the central nervous system made her case so similar to that of M. S. that the possibility of the hyperglycemia being of syphilitic origin in both patients occurred to us.

In the first place, convulsions can only be explained in relation to diabetes on a basis of an overdose of insulin. Neither patient had ever had insulin at the time of her first convulsion. Convulsions are not infrequent in paresis, and the headaches, disorientation, and at times marked euphoria are, especially in view of the spinal fluid reports, pathognomonic of dementia paralytica. We know, therefore, in spite of the absence of necropsies, that in both cases there

was extensive destruction of the brain substance: it is not unreasonable to assume that the vital basal structures were damaged.

The evidence against the presence of diabetes mellitus independent of the syphilis in the first case is not conclusive. We regret that a dextrose tolerance was not done either time she was in the hospital (indeed we thought it had been: it was requested) and that her poor coöperation precluded its being done later. Several times her blood sugar was but slightly above normal, and urinalysis was repeatedly negative for sugar. In view of her own irresponsible state and the apathy and ignorance of her family, we doubt that dietary measures could have so well controlled true diabetes.

In the second case paresis seems to us an adequate explanation of the whole picture. F. W. exhibited glycosuria only when in a convulsive state, and in spite of excessive indulgence in sweets, she gained weight steadily until the time of her death. Her sugar tolerance curve, though high, is in keeping with that reported from time to time in cases of cerebral lesions.

SUMMARY

Clinical reports of two cases of dementia paralytica in which hyperglycemia was noted are submitted. In one we feel that the hyperglycemia was surely secondary to syphilis of the basal nuclei; in the other we consider this probable. If diabetes were present in either case, it was of a benign type and caused little or no trouble.

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THE AMERICAN NEISSERIAN MEDICAL SOCIETY*

Presidential Address

BY J. DELLINGER BARNEY, M.D.†

GONORRHEA is as old as history. It was described, and means for its sanitary control laid down, by Moses as recorded in the Fifteenth Chapter of Leviticus. Hippocrates called it strangury. To Galen, about 500 A.D., goes the credit for the misnomer, gonorrhea, by which it is still known today. The gonococcus was identified by Neisser sixty-five years ago.

In spite of the disabilities it has caused and the damage it has done since the beginning of time, so little has been accomplished in the direction of its control that it remains, as it has always been, among the most prevalent of all communicable diseases.

The United States Public Health Service[1] has determined after an elaborate survey of twenty-six millions of people, that nearly seven hundred thousand persons in this country apply annually for treatment of acute gonorrhea. "This estimate," says the report, "is obviously a minimum, because at least half the infected individuals fail to seek treatment until after their infections reach the late or chronic stages, and there is an unknown, but large group of individuals who never seek authorized medical care." It is perhaps safe to assume that nearly two million infections with gonorrhea occur annually in the United States.

Reports of the Massachusetts Department of Public Health indicate that in the female a diagnosis of gonorrhea is much more often missed than made; that at least ten per cent of all infections in the female are in girls ranging from infancy to fourteen years of age; that twenty per cent occur in the fifteen to nineteen year age group, and that more than seventy-five per cent of all infections in the female are in girls and women under thirty years of age.

These reports indicate, further, that sixty-five per cent of the gonococcal infections in the male are in boys and men under thirty years of age; that the peak of prevalence is in the early twenties; and that more than half the infections in adult women have been incurred by marriage to uncured males.

Thus the story of gonorrhea is tragedy. It is the tragedy of public ignorance and a deplorable lack of professional interest in the control of this disease. In his metamorphosis from man to physician, the doctor has emerged retaining still the man's conception of gonorrhea as a "venereal disease", to be found only in those who, deserving their infections, are entitled to little sympathy and less medical consideration.

When the medical profession becomes properly conscious of the prevalence of gonorrhea and of the damage which it has wrought in countless women who are not prostitutes, something may be done for the control of the disease in the male. When the health officer and the physician join in telling people the truth about gonorrhea, there may be created a public demand for the better management of existing infections and for the more effective prevention of new ones. I feel confident that we shall find

*Delivered at the First Annual Meeting of the Society, Atlantic City, N. J., June 12, 1935.

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as time goes on that we can count upon an increasing coöperation of women doctors in the cure of this disease among patients of their own sex.

In November of this year, five years will have passed since the organization of the Massachusetts Neisserian Medical Society. Some forty or fifty physicians, interested in the more intensive study of gonorrhea, were at that time called together by the Massachusetts Department of Public Health to consider certain "Minimum Standards for the Diagnosis, Treatment and Control of Gonorrhea." The four hours of discussion which enlivened that meeting so inspired the group that it agreed as a unit to the proposal that a society be formed which might serve as an authoritative source of information and assistance to the medical profession in the management of gonorrhea. The proposal was offered with the argument that it is a major duty of the specialist to give to the whole medical profession the benefit of his larger experience in this field.

For two years the Massachusetts Neisserian Medical Society groped about, trying to decide what to do. It was addressed by excellent speakers. Discussions often became almost acrimonious, but they served only to expose a wide disagreement not only among physicians from outside the State, but among those who met regularly in the same clinics and hospitals. Obviously but little assistance could be offered to the inexperienced by a group in which there was so little apparent unanimity.

Eventually certain of the Society's officers, impatient with the confusion and uncertainty of purpose, proposed the appointment of a Planning Board which would prepare an orderly course of action. The Society became suddenly unanimous and such a board was appointed. Thus was begun a study, within the Society itself, of its own conception of gonorrhea and its management.

By the questionnaire method, each member was quizzed in minute detail as to his use and opinion of the various laboratory procedures which are available in the diagnosis of the disease. There was encouraging agreement over some procedures, but complete and often disconcerting disagreement over others. The Society met to consider all the answers. A paper was prepared which was a sincere attempt to evaluate laboratory procedures, frankly casting into "outer darkness" those which seemed worthless, giving proper weight to those which seemed useful and reëmphasizing the too often forgotten fact that the best of them are, after all, only aids to diagnosis. This paper was published as the product not of an individual but of the Society in The *New England Journal of Medicine*, its official organ. Reprints were mailed not only to the six thousand physicians in Massachusetts, but also to every judge and district attorney in the State.

Subsequently, in the same manner, the Society has studied the clinical diagnosis of gonorrhea in both male and female, and it is now attempting to discover how its members actually treat gonorrhea, and why certain therapeutic measures are better than others.

This involved some hard work. It has been participated in by most of the eighty or more members of the Society. Meetings have been devoted solely to the serious study of gonorrhea. The large attendance has been encouraging evidence of a desire to learn and to be helpful. It has been discovered that there is much to be done in the way of "debunking" the management of gonorrhea; that traditional procedures may have no value in fact; that the pet methods of one physician may not be in favor with another, and that the gaps in our knowledge are appalling. However, the Society has been able to say to the physicians of Massachusetts, "Out of all the chaos, we offer you this as a reasonably sound base-line, as determined by our combined experiences."

One year ago this month, at Cleveland, the American Neisserian Medical Society was organized. Today it boasts 173 members from twenty-eight states, Porto Rico, and Canada. The very fact that such an association as this could have been organized, for the study and improvement of the management of a disease which has been left too long to the ministrations of the quack and of the incompetent, is evidence that the physicians of the Americas have decided that something must be done about gonorrhea, the "stepchild" of medicine.

It now behooves us to think seriously and to plan wisely what we are to do. If we are to become only a society of listeners, before which individual physicians with pet theories to expound may read their papers, we might as well desist before we begin. If we are to take at their face value the objects of the Society as set forth in its Constitution, if we honestly and vigorously pursue the study of gonorrhea as a prevalent disease, as a long-neglected and serious public health problem and as a social disgrace, there is hope that we may arrive somewhere.

There is need for dissemination of information among all practitioners of medicine as to the size and nature of the problem which we face. As a Society, how much do we ourselves know, at the present moment, of the epidemiology of gonorrhea? How may we contribute to a more exact evaluation of the job we plan to undertake? If we are to teach, must we not know better than anyone else the things we wish to teach?

It should be our aim to lift the management of gonorrhea to the highest scientific and ethical plane. How can we improve unless we know what needs improvement? There is room

for the development of more helpful laboratory procedures. What do we really know about the gonococcus or the value or the shortcomings of existing laboratory aids to diagnosis, or of the pathology of gonorrhea?

The therapeutic armamentarium is a hodgepodge of whatever the drug houses happen to be exploiting at the moment. The very number of drugs in use bespeaks their inadequacy. Who is there who can say that a given urethral irrigant should be used at a certain strength and at a correct temperature and why? There will be a hundred others to "prove" that a hundred other strengths and temperatures are better. Are we to turn one ear to those who cry, while tradition echoes the refrain, "No meat, no spice, no fizzy drinks," and the other to those who deny the patient only alcohol; or shall we determine once and for all, on the basis of careful and thorough scientific study, the exact relationship of diet to the management of gonorrhea?

So on, ad infinitum, until we have called the roll of epidemiology, bacteriology, pathology, immunology, diagnosis, treatment, criteria of cure, education of the medical profession, information of the public, prophylaxis and preventive social hygiene.

What a vast field this Society looks out upon today! How full it is of the weeds and brambles of tradition, of prejudiced opinion, of unscientific lack of method, of ignorance and of prudery! Shall we burn it over, plow it under, till it well and sow the seed of scientific study in straight rows for a harvest of gonorrhea under control? If we do, this day will live long in medical and social history.

Let us look then to our membership, that while it shall include all those who are qualified, we keep the qualifications high. Let us include and call into consultation the epidemiologist, the bacteriologist, the pathologist, the educator, and the social hygienist. Let us do that kind of work which will attract the financial aid we shall need. Let us think seriously and plan wisely and then go to work. Tennyson voiced our attitude in his line,

"Ring out the false, ring in the true."

REFERENCE

1. Editorial: Venereal disease morbidity reports. Ven. Dis. Inform. **14**: 243 (Oct.) 1933.

COSTOVERTEBRAL STRAIN*

BY LLOYD T. BROWN, M.D.†

STRAIN of a joint occurs only when that joint has for some cause or other been moved beyond the limits of its motion. Such a strain causes injury to the ligaments or capsule with its accompanying inflammation or swelling. If such a joint is so situated that it is in close approximation to or even partly surrounded by bony walls, swelling or inflammation will of necessity cause pressure on any structures which may be within those walls. The costovertebral joints are so placed that if there should be a strain it would be possible for pressure to come on the nerves and blood vessels which are in the intervertebral foramen as well as on the nerves after they have left the foramen on their way to the inferior surface of the ribs.

From the point of view of the mechanics of the costovertebral region it is of importance to note that there are great variations in the shape of the ribs, the vertebrae and the transverse processes in different individuals at the same vertebral level. There are also great variations in different parts of the spine in the same individual.

There are two articulations of the rib with the vertebra (fig. 1), one with the vertebral body or bodies, and one with the transverse process. Above the tenth dorsal vertebra the

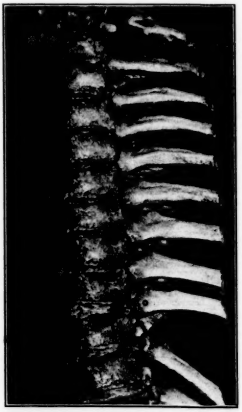


FIG. 1. A dorsal spine showing marked hypertrophic changes. Note that the articulation of the ribs crosses the intervertebral fibrocartilage.

articulation with the vertebral body crosses the intervertebral fibrocartilage and has its joint attached to the upper margin of one vertebral

*Read at the meeting of the American Academy of Orthopaedic Surgeons, January 15, 1935.

†Brown, Lloyd T.—Orthopedic Surgeon, Faulkner Hospital. For record and address of author see "This Week's Issue," page 162.

body, and to the lower margin of the body above. Both the vertebral and the costotransverse process articulations are gliding or arthrodial joints. The articular capsule of the former is composed of short strong fibres holding the head of the rib to the vertebral bodies and intervertebral fibrocartilage (fig. 2). This cap-

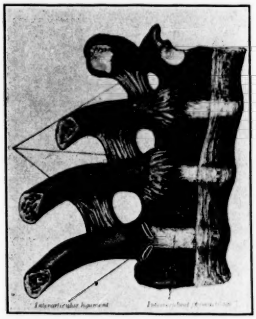
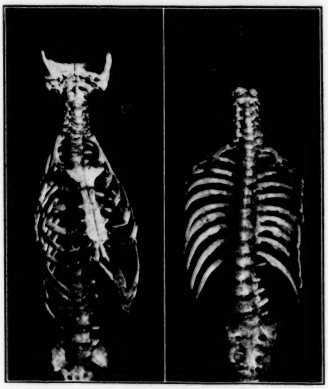


FIG. 2. Ligaments of the costo-vertebral joints. From Gray's Anatomy, 22nd edition, p. 296.

sule is reinforced by the radiate ligament which digitates with the anterior surface of the vertebral bodies compressing the joint and the fibrocartilage. Within the joint is found the interarticular ligament which attaches the intervertebral fibrocartilage to the head of the rib. The articulation with the transverse process, usually absent in the last two ribs, varies somewhat in its position depending upon the particular anatomic structure of the individual and on the region involved. In the slender type the articulation will more commonly be found upon the anterior aspect of the transverse process while in the heavy type of anatomic structure it will more commonly be found on the superior aspect. In some individuals (fig. 3) the transverse ar-

FIG. 3. Shows the variations of the position and shape of the articular facets on the transverse processes.

ticulation will be on the anterior aspect and at other levels it will be on the superior or even the lateral aspect. The shape of the facets on the transverse process will vary from the flat to the cup-shaped or crescentic. They may face anteriorly or diagonally upward and forward, or outward, and downward at some levels. Upon the position of the facets will depend the shape of the chest when the body is in the relaxed position or that of faulty body mechanics. For example (fig. 4), if the articulation is on the anterior aspect the whole chest or rib cage can droop downward so that the ribs are nearly vertical, making the chest very long and narrow with a narrow subcostal angle. This type of chest is commonly seen in the slender anatomic



A B

FIG. 4. Anterior view of the chest.

A. The drooped long chest commonly seen in this slender type of anatomy. Note that the first rib is nearly vertical and its superior surface is facing anteriorly.

B. The rounded chest commonly seen in the heavy type. Note that the first rib is nearly horizontal.

type. If the articulation (fig. 5) is on the superior surface as is commonly found in the heavy structure, the chest as a whole cannot sag downward nearly so much; the ribs do not become so vertical, the subcostal angle does not become acute and the chest is never so long as is found in the slender type. Nevertheless in

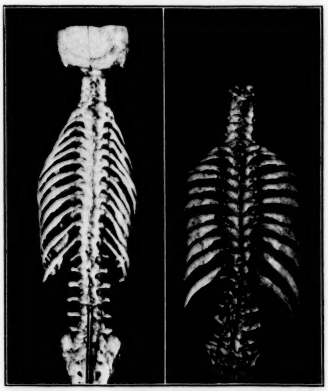


FIG. 5. Posterior view of same chests.

either type if the costovertebral joints are used in a position at the extreme of their motion, strain with the accompanying symptoms is equally possible.

The articular capsule holding the tubercle of the rib to the transverse process (fig. 6) is thin

FIG. 6. Ligaments attaching the rib to the transverse process. From Warren's Handbook of Anatomy, p. 115.

and entirely different in character from that at the articulation with the vertebral body. There are several ligaments which strengthen this articulation, the anterior transverse going from the neck of the rib below to the transverse process above, a ligament which could mechanically be strained very easily; the posterior transverse, similar in location but feebler and posterior to the anterior costotransverse ligament; and the middle costotransverse ligament attaching the neck of the rib to the adjacent transverse process and the ligament of the tubercle of the rib.

The ribs are so firmly attached to the vertebral bodies that extensive movements do not occur under ordinary circumstances. In respiration only a slight gliding motion occurs. With more forceful respiration or in muscular effort involving the abdominal musculature a torsion movement of the ribs takes place with the axis of motion along or just internal to the neck of the rib. With the body held in the drooped position so that the chest is in a position of nearly complete expiration there must be a considerable strain not only on the costovertebral joint because of the leverage action of the rib on the transverse process which acts as a fulcrum but also a strain on the costotransverse joint as well (fig. 7). This can be demonstrated in the x-ray by evidences of hypertrophic changes along the margins of this joint. Similar changes can be seen at the costovertebral joints as well. When such changes are present there must be limitation of the motion of these joints and this limitation, combined with the drooped position of the chest, constitutes a still greater potential of strain if there is any extra exertion or sudden unguarded movement.

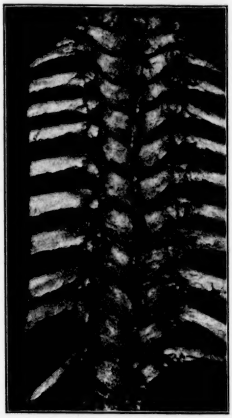


FIG. 7. Posterior view of costotransverse joints showing marked hypertrophic changes as evidence of strain (A). See also fig. 1.

It is important to understand the anatomy of these joints and the structures in their immediate vicinity in order to appreciate the possible symptomatology caused by a strain in this

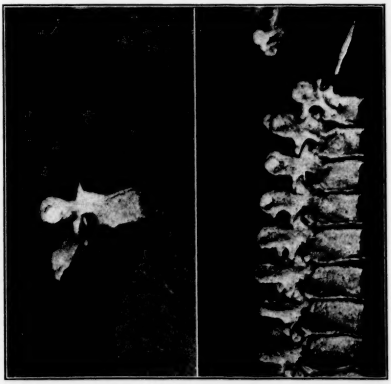


FIG. 8. Shows hypertrophic changes in the intervertebral foramen with a consequent narrowing of the size of the foramen.

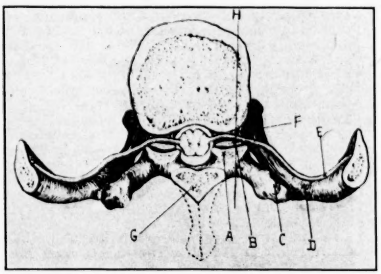
region. The articular processes of the dorsal vertebrae form the posterior border of the intervertebral foramina. Therefore strain of these

joints may cause inflammation of the ligaments or capsule which will in turn cause pressure on the artery, veins, or nerves which are normally in the foramen. Fortunately the foramen is very large so there is usually more than enough room. Anatomical specimens (fig. 8), however, show frequent evidence of hypertrophic changes along the margins of these joints which must narrow the foramen. As the nerve (fig. 9) leaves the intervertebral foramen it goes outward and upward in close proximity to the capsule and the tip of the articular process, so close in fact that it is hard to understand why there are not more symptoms than are commonly found. From this point the nerve continues outward and upward along the neck of the rib close to the costotransverse joint of the rib above where it finally enters the groove on the under side of the rib.

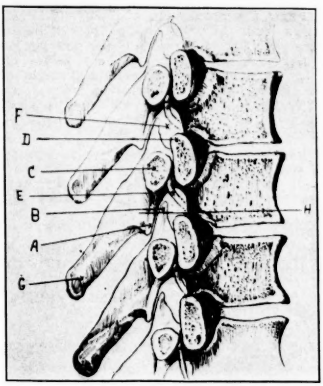
When it is seen how close to the bone the nerve is and how taut the ligaments and capsule of the joints must be in the drooped position, it is possible to understand how the torsion of the ribs in faulty body mechanics may cause acute strain on these nerves, or how a slight pressure over a long period of time may cause interference with the blood supply or the nerves which come out in that region. Such an understanding makes it possible to see why surgeons like the late Dr. Carnett felt that a great many of the obscure thoracic and abdominal symptoms for which there seemed to be no local or visceral pathology could be explained by pressure on the nerve roots. It also makes it possible to understand why these obscure symptoms disappear with the correction of the faulty body mechanics. Reasoning on this same basis we may have a very strong contributory cause for such obscure conditions as shingles, intercostal neuralgia and pleuritic pains not of pleural origin.

In conclusion, we feel that there is sufficient anatomical and clinical evidence to show that, in the drooped position of the thorax seen in faulty body mechanics, it is possible to get pressure or stretching of the intercostal nerves with radiating pain along the nerves involved. This pressure may come from acute or chronic inflammation due to strain of the costovertebral or the costotransverse joints.

DIAGRAMMATIC SECTIONS OF COSTOVERTEBRAL JOINTS AND INTERVERTEBRAL FORAMINA.
(Drawn from frozen sections.)



Viewed from Below.



Lateral View.

A. Inferior articular process, 7th dorsal
B. Superior articular process, 8th dorsal
C. Transverse process
D. Rib
E. Intercostal nerve
F. Intervertebral foramen
G. Spinous process
H. Line of section

FIG. 9. Schematic drawing taken from a series of frozen sections showing the proximity of the nerve root to the articular facets. The possibility of pressure if there is strain or hypertrophic changes not only in the foramen but in the region of the costotransverse joint is evident.

TWO CASES OF DWARFISM*

BY HAROLD L. HIGGINS, M.D.†

CASE 1

THIS patient is a young woman, twenty-one years old. She is a cretin who has received practically no thyroid gland therapy. She is one of a family containing several children. There is no family history of thyroid disturbance or cretinism. At the age of eleven she was admitted to the Massachusetts General Hospital because of trouble with her teeth. At that time the child was given thyroid gland for a few weeks, but it was discontinued when she went home. Six months ago, at the age of twenty-one, she was again brought to the hospital because of trouble with her teeth. Again she was put on thyroid treatment and observed for a period of four weeks. On discharge home, again the patient was taken off thyroid and has received none since. Apparently the thyroid was discontinued in each case because the mother thought that the child did not react well to the medicine.

Cretins seem to see only the happy side of life. They smile and, with their poor insight, fail to have troubles and worries. Giving them thyroid gland is like opening up Pandora's Box. They begin to realize trouble as well as to show improvement in intelligence and ability. This mother preferred that the child remain a contented baby for twenty-one years rather than be a somewhat irritable, discontented child.

With the patient at her age and her present mental capacity, full doses of thyroid gland—i.e., sufficient to cause a normal basal metabolism—would lead to a marked emotional upset and would make the child almost intractable at home. My recommendation now on this case would be the giving of approximately one-seventh of the usual dose of thyroid gland for the present. That would tend to overcome her myxedema, relieve her constipation, and produce a better proportioned child, but not so irritable a child as if the full dose were given. The probable full dose to overcome all signs of hypothyroidism would be approximately 1½ grains of Armour's Thyroid daily. The optimum dose could be assayed by following her basal metabolism. One-seventh of the usual dose, thus, would be 1½ grains once a week.

The word "cretin" etymologically means "dwarf". This child is certainly a dwarf, her height being forty-one and one-fourth inches instead of the normal of about sixty-three.

In making a diagnosis of cretinism in the Children's Clinic at the Massachusetts General Hospital, we use the form which follows; the findings with

*These cases were demonstrated at the meeting of the New England Pediatric Society, March 22, 1935.

†Higgins, Harold L.—Chief of Children's Medical Service, Massachusetts General Hospital. For record and address of author see "This Week's Issue," page 163.

CHARACTERISTIC SIGNS AND SYMPTOMS

		Before Treatment		After 4 Weeks' Treatment
Dwarfed.	+	41¼ inches	+	No Change
Center of body higher than usual.	+	At umbilicus	+	" "
Extremities—short.	+		+	" "
Square hands. Short fingers.	+		+	" "
Delayed dentition.	+	10 years	+	" "
Delayed calcification of bones of wrist.	+	6 years	+	" "
Delayed closure of fontanelles.	+	Ant. Font. Open	+	" "
Doughy, gelatinous, pale to yellow skin (Myxedema).	+		o	Lost 8 lbs. in wt.
Dry skin, scaly, no perspiration.	+		o	
Puffy face, thick eyelids.	+		+	No Change
Depressed nasal bridge.	+		+	" "
Coarse, sparse, dry hair.	+		?	Change
Sparse eyebrows.	o		o	No Change
No pubic or axillary hair.	+		+	" "
Tongue—thickened and enlarged.	+		o	
Mucous membranes thickened.	+		o	
Lips thick and prominent.	+		o	
Neck—pads of fat.	+			Disappearing
Heart—rate slow.	+		+	Rate faster
Abdomen—protruding (lordotic posture).	+	30¼ inches		Less 26½ inches
Umbilical hernia.	?		?	No Change
Tendency to constipation.	+		?	
Speech—delayed.	+		+	No Change
Voice—deep and coarse.	+		o	Higher pitched
Grunts.	+		+	Less
Voluntary motions—slow.	+		+	"
Walking—delayed, unsteady.	+		?	Change
Expression—apathetic, complacent.	+			Less
Occasionally anxious.	+		+	No Change
Intelligence—backward mentally.	+	Mental age 20 mos.	+	" "
Disposition—happy but no insight.	+		o	Irritable
Memory poor.	+		+	No Change
Easily guided (no negativism).	+			Not coöperative
Not easily taught.	+		+	No Change
Body temperature subnormal.	o	99°	o	" "
Basal metabolism subnormal.	+	—26%	o	+12%
Anemia—secondary.	o		o	
Blood cholesterol—high.	+	587 mg.	o	250 mg.

this patient before and after thyroid therapy are included.

We mark positive findings of cretinism "+" and those absent with a "o." After the examination we then evaluate the symptoms to decide as to whether the child is a cretin. In this case nearly all the signs and symptoms are present. Some of them, however, had disappeared after four weeks' treatment with thyroid gland.

Many cretins will show as few as one-half of the signs and symptoms listed. After treatment with thyroid gland, one is often unable to tell whether the child is a cretin. In treated cases, not previously seen, the only method of diagnosis is to discontinue the thyroid gland for six to eight weeks and observe whether the signs and symptoms recur. We make it a rule to have a photograph of our patients before thyroid is administered. In this way, we can always refer back to the appearance of the child if a question arises as to diagnosis after the treatment with thyroid has begun. In demonstrating the present patient, her size and slow motions are unusually characteristic. This patient's smile is what one would expect to see in a slow-motion moving-picture.

It frequently happens that the question is raised whether a child is a cretin or a mongol. The differential diagnosis should present no difficulty, if one evaluates the case from the differential characteristics given below.

Case 2

Male child. Age, one year, six months, nine days.

P. H. Mother is said to have been shocked by lightning two months before the baby was born.

F. H. Father, mother and three siblings are well and of normal development.

Birth was normal at term; weight 3 lbs. 7 oz. He was not breast fed on account of his mother's illness. He was fed on "Lactogen" during the first few months of life. Cod liver oil and orange juice were given. Later other food was given to him. He was being fed at the time of admission to the hospital, Grade A milk 4 oz. at a time, five or six times a day. He also had oatmeal, tomatoes, potatoes, and cod liver oil.

His appetite has always been poor. He has one to two stools daily which are not unusual. He never has had diarrhea or digestive disorder.

He had pneumonia at two months.

He will stand with support.
He says "papa" and "mama".

P. I. The patient was brought to the hospital because he did not develop physically as did his brothers and sisters. One physician had said he had "water on the brain".

This patient is a dwarf—a symmetrical dwarf. His size at the present time is that of a child of six months, whereas his chronological age is eighteen months. The child was small when he was born. He

Points in the
DIFFERENTIAL DIAGNOSIS
Between

	Cretins	Mongols
Condition apparent	3-5 months of age	At birth
Height	Dwarfs	Normal
Body proportions	Short extremities	Normal
Hands and feet	Square; short	Short; thick; curved-in little finger; bifid tendency in hands and feet
Closure of fontanelle	Greatly delayed	Some delay (? rickets)
Teeth	Delayed eruption	Possible delay in eruption. Peg-shaped teeth
Joints	Normal	Extremely flexible
Skin	Dry, doughy; thick; myxedematous	Soft; shiny; smooth; frequently chapped
Color of face	Pale yellow	Red, as if painted
Perspiration	Lessened or absent	Normal
Hair	Sparse; thick; brittle	Fine; soft; scanty
Eyelids	Pseudo-edematous; thick; narrow slit	Slit turned up and out; epicanthic fold present
Nose	Bridge depressed; mucous membrane thick	Wide, depressed bridge; button-like end
Mouth	Thick lips; large tongue	Normal size; fissured tongue, usually protruding and with small tip
Expression	Apathetic or anxious; forehead wrinkled; face puffy and full	Cheerful; comic; or stupid
Heart	Slow rate	Frequently congenital malformation
Speech	Delayed; deep bass voice	Delayed; difficulty in pronouncing certain letters
Effect of Thyroid Therapy	Rapid improvement of all symptoms	Improvement of constipation, hernia, and dentition only
Infections	Usually normal resistance	Very susceptible to and with poor resistance to disease
Prognosis as to intelligence	Improvement with early and continued treatment with thyroid gland	I. Q. almost never above 65; intelligence probably not affected by thyroid gland therapy.

might have been called a premature baby, but such is hardly the case since he was born at term. He was just a small baby. It is observed that the small babies, whether dwarf as this child or one of twins

Photograph shows patient at the age of twenty-three months beside a boy of normal size, age twenty-five months.

or triplets, tend to do better nutritionally than do premature infants of the same size. They eat and utilize their food better. This child, on growing up, will become a midget such as we see on the stage.

	Patient	Normal
Weight	10 lbs.	24½ lbs.
Height	25⅞ in.	31¼ in.
Head	16¼ in.	18½ in.
Chest	14½ in.	18½ in.
Abdomen	12¾ in.	17 in.
Basal metabolism	322 Cal.	For age 575 Cal.
		For ht. 364 Cal.
		For wt. 230 Cal.

Mental tests show this patient mentally to be little better than the twelve-months level. Pituitary dwarfs or midgets ordinarily are approximately normal mentally.

The cause of his small size is probably some deficiency in the pituitary gland. He is smaller and younger than are most pituitary dwarfs when first diagnosed. The problem arises—what should we do about treatment? Treatment, if attempted at all, would be by a pituitary gland preparation. Does one want him to grow up or does one want him to remain a midget? If one could get him to grow faster, he probably would not grow sufficiently to become a normal size; but he might no longer be a midget and thus lack the earning power of that group on the stage.

We have been injecting every other day 2 cc. Anterior Pituitary Extract, Squibb's, hypodermically. Up to six weeks we were not able to notice any definite spurt of growth from this treatment. In giving this treatment, one has a bit of hesitancy. The preparations of growth hormone alone are reported not to have much potency. In taking the whole anterior pituitary extract one is also giving a sex hormone and there is a question of possible premature closure of the epiphyses and perhaps a result opposite to that one would try to get. Dr. Hoskins advised going ahead and trying for any growth value that could be obtained from this pituitary product we have been using.

In passing we might mention the almost complete absence of nasal sinuses in pituitary dwarfs; with the prevalence of upper respiratory infections in New England, the pituitary dwarf seems to have something to be thankful for.

THE THERAPEUTIC VALUE OF CALCIUM SALTS IN SERUM SICKNESS*

BY THEODORE J. CURPHEY, M.D.,† AND SAUL SOLOMON, M.D.†

CALCIUM salts have long occupied a place in the symptomatic treatment of serum sickness. The literature, however, contains few reported investigations as to their therapeutic value and even these reports are inconclusive because the results were estimated largely on subjective criteria. Moreover, apparently none of these studies have included observations on a parallel group of untreated cases studied under similar circumstances and at the same time. Because of this lack of controlled investigation, inconclusive evidence and conflicting results, a carefully planned study to determine the value of calcium therapy in serum sickness seemed desirable.

An opportunity to make such a study arose in connection with an investigation into the therapeutic value of certain antipneumococcus sera conducted on the Wards of the Fourth Medical Division of Bellevue Hospital during the season 1933-34, and through the courtesy of Dr. Alexander Lambert and Dr. Charles Nammack, Director of the Division.

*From the Fourth Medical Division, Bellevue Hospital, Dr. Charles Nammack, Director.

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METHODS OF OBSERVATION

A series of patients suffering from pneumococcus lobar pneumonia was treated intramuscularly with unrefined antipneumococcus horse serum prepared by a modified method[1]. These patients were tested for sensitivity to normal horse serum, and none are included in this report who showed positive skin or conjunctival reactions prior to serum administration. Of these serum treated patients, those who developed serum sickness were divided into two groups: (a) those receiving calcium along with other symptomatic treatment, (b) those given the same symptomatic treatment but without calcium; alternate cases being chosen in the order of their development of serum sickness. The control cases received treatment as follows: adrenalin M X subcutaneously p.r.n., ephedrine gr. ¾ t.i.d. by mouth, calamine lotion with phenol locally and sedatives as required. No special diet was prescribed. The cases treated with calcium received in addition to the above, varying doses of calcium gluconate. Thus, as soon as the patient developed a rash, the alternate patient was given 10 or 20 cc. of 20 per cent calcium gluconate (Sandoz)* intravenously and supplemented by 10 cc. of 10 per cent calcium gluconate intramuscularly, followed every twelve hours by 10 cc. of 10 per cent calcium gluconate intramuscularly until the rash or other symptoms subsided. In the administration of the drug, the solution for intravenous injection was warmed to body temperature and injected slowly, 10 cc. requiring two to three minutes for administration. These precautions are advocated by Lieberman[2] to prevent possible reactions. Such reactions are characterized by a burning sensation over the entire body, a salty taste and a feeling of weakness and nausea. Only the 10 per cent solution was used for intramuscular injection, the 20 per cent product being reserved for intravenous injection.

In order to obviate as much as possible the psychological effects of the treatment, our conclusions are based primarily on the average time required for the disappearance of the rash in each group, although the occurrence and course of various other symptoms were also observed and recorded.

Table 1 shows a total of thirty patients ob-

*Material supplied gratis by Sandoz Company.

TABLE 1

Name	Sex and Age	Color	Total Serum Admin.	Date of Onset of Serum Rash	Duration of Rash in Days	Severity of Symptoms	Duration of Subjective Symptoms—Days	Total Calcium Administered I. V. 20%	I. M. 10%
				A—*Control Group*					
*J. B.	M32	Negro	450 cc.	9th	3	x	9		
†P. D.	M43	White	750 cc.	9th	3	xx	3		
P. G.	M39	White	600 cc.	10th	5	xx	7		
I. H.	M46	White	300 cc.	8th	8	xx	10		
B. H.	F35	White	400 cc.	10th	3	x	3		
C. H.	M54	White	600 cc.	8th	8	xxx	12		
G. L.	M24	White	400 cc.	9th	4	xx	5		
T. M.	M30	White	350 cc.	7th	5	xx	7		
L. S.	M30	Negro	250 cc.	7th	7	xx	9		
C. W.	F30	White	400 cc.	4th	7	xx	7		
G. O.	M35	Negro	500 cc.	6th	8	xx	8		
E. W.	M65	White	300 cc.	9th	4	xx	10		
T. C.	M43	White	300 cc.	8th	4	x	5		
†P. McK.	F34	White	600 cc.	6th	7	xxx	7		
P. W.	M30	White	180 cc.	8th	5	x	5		
				B—*Calcium Treated Group*					
B. S.	M44	White	350 cc.	8th	2	x	2	20	50
J. R.	M46	White	400 cc.	6th	2	x	2	20	50
†W. R.	M54	White	500 cc.	11th	4	xx	4	20	80
A. R.	M16	White	550 cc.	9th	3	xx	3	20	60
B. M.	M50	White	250 cc.	2nd	.12	xx	.12	20	30
P. M.	M39	White	350 cc.	8th	4	x	7	10	100
J. M.	M30	White	380 cc.	7th	3	xx	4	20	80
M. L.	M65	White	850 cc.	15th	2	x	2	20	50
N. E.	M42	White	500 cc.	12th	5	xxx	6	30	170
T. deN.	M42	White	300 cc.	11th	2	xx	2	10	40
T. deL.	M38	White	580 cc.	13th	3	xx	3	20	40
M. R.	F58	White	300 cc.	8th	3	x	3	10	35
E. D.	M27	Negro	300 cc.	8th	3	x	5	20	40
M. D.	F30	White	250 cc.	7th	5	x	5	20	80
G. V.	M63	White	400 cc.	9th	3	xx	2	20	60

*Discharged with subjective evidence of serum sickness.
†Serum sickness present at time of death.

served, fifteen were treated with calcium; the remaining fifteen constituted the control group. The two groups are reasonably comparable in respect to age, sex and quantity of serum administered. Moreover, if the severity of the symptoms at onset of serum disease be graded from 1 to 4 plus, it is seen that the two groups are also similar in this respect. Table 2 shows that in both groups there was a fairly uniform

TABLE 2

SHOWING AVERAGE VALUES FOR CONTROL AND CALCIUM TREATED CASES

	Calcium Treated	Control
No. of cases	15	15
Average amount of serum administered to each case	412 cc.	425 cc.
Average date of onset of rash following the first dose of serum	8.3 days	7.8 days
Days of rash	2.9 days	5.4 days
Days of subjective symptoms	3.3 days	7.1 days

time of onset of the serum sickness in that all patients showed symptoms beginning either on the eighth or ninth day. Thus, the only variables are the duration of the rash and the subjective symptoms in each group.

From table 2 it is seen that the average duration of the rash in the control group was 5.4 days as contrasted with the shorter period of 2.9 days in the calcium treated cases. Considering in addition the subjective symptomatic improvement, the difference between the two groups is even more striking, the average duration in the control group being 7.1 days as compared with 3.3 days in the calcium treated group.

Despite the small number of cases we believe that these observations are reliable. Our figures are conservatively stated, because in the compilation of the tables there were three cases in the control group where the patients either died or were discharged before the serum sickness had run its course, whereas there was only one such case in the calcium treated group. These cases are so listed in the table. Moreover, considering the development of further manifestations of serum sickness such as arthritis, giant urticaria, cramps, etc., subsequent to the onset of the rash, it was found that six of the fourteen control patients developed new symptoms while only one in the calcium treated group showed any such progression in the clinical picture.

DISCUSSION

While the value of calcium therapy in atopic disorders, particularly bronchial asthma and urticaria, has been the subject of much controversy, nevertheless, Cantarow[3] says that calcium salts are extensively employed in the treatment of these conditions and there can be no doubt of their beneficial effects in many cases.

The rationale of calcium therapy in serum sickness is based largely on the alleged ability of calcium to decrease vascular permeability, allay nervous irritability, constrict peripheral capillaries and raise blood pressure. Hanzlik[4] states that calcium salts prevent or inhibit clinical allergic manifestations owing presumably to their power to lessen cellular permeability. Numerous experimental studies have been made to determine the effect and mode of action of calcium salts in serum sickness and allied conditions, but the results of these studies are by no means in agreement.

Besides these experimental studies there are clinical reports that are similarly conflicting. Thus, Thommen[5], on studying a rather limited group of allergic diseases including several cases of urticaria and one case of serum sickness, emphatically denied the therapeutic value of calcium salts. Similarly, Hallam[6] found calcium disappointing in the treatment of urticaria. Hunt mentions the use of calcium salts in serum sickness but is not enthusiastic as to their value.

Probably the earliest report on the value of calcium salts in serum sickness is that of Wright[7] in 1896, himself a victim of severe serum sickness following antitoxin administration and who noted remarkable improvement following the ingestion of calcium chloride. More recently Bremer[8], Diasio[9], and Sterling[10], have reported favorably on the value of calcium in serum sickness. Similarly, Karrenberg[11] reports several cases, among them that of a physician who after the injection of a prophylactic dose of tetanus antitoxin developed an extraordinarily severe serum sickness with high fever, marked exanthem and collapse symptoms. At the acme of the disease, 10 cc. of 10 per cent calcium gluconate was injected intravenously and 10 cc. intramuscularly. The symptoms subsided almost instantaneously. This case parallels that of B. M. in our series who developed a severe generalized urticaria associated with fever, headache and general malaise. Following adequate calcium medication associated with other symptomatic treatment as outlined above, the rash and other symptoms disappeared within three hours after onset.

In the therapeutic use of calcium salts certain conditions must be observed if the best clinical results are to be obtained. Thus, Karrenberg calls attention to the importance of administering adequate amounts of calcium in readily available form and in urticaria recommends as much as 30 cc. of the 10 per cent calcium glu-

conate solution daily; in one case of serum sickness he used 10 cc. intravenously supplemented by 10 cc. intramuscularly and twelve hours later gave another intramuscular injection of 10 cc. This recommendation of dosage and mode of administration is confirmed by Schaffler[12] who showed that the intravenous use of calcium gluconate supplemented by intramuscular injections is the most satisfactory means of obtaining a sustained increase in the blood calcium level. While calcium gluconate may be administered by mouth, it is well to remember that with oral dosage, a number of factors may delay or prevent absorption from the intestine including the possible formation of insoluble calcium soap. Consequently when reliable, rapid, intense and prolonged calcium action is required in such acute, distressing conditions as serum sickness, the combined intravenous and intramuscular mode of administration is preferable. Apparently there is a close connection between the quantity of calcium given and the results obtained with it. Thus, Hunt reports some alleviation of the disease following the use of one Gm. of calcium gluconate intravenously t.i.d. This contrasts sharply with the recommended dosage of Karrenberg as well as with the dosage employed by us. Thus in case N. E., as much as 30 cc. of the 20 per cent solution was given intravenously in one dose with simultaneous injection of 20 cc. of the 10 per cent solution intramuscularly, along with six Gm. of calcium gluconate by mouth, a total of fourteen Gm. This dose was not followed by any untoward effect. The average case, however, received an initial single dose of five Gm. parenterally, followed by one Gm. intramuscularly every twelve hours. While a few of our earlier cases were treated with calcium gluconate orally, this route was abandoned subsequently because of the uncertainty of absorption.

In conclusion this study seems to show that calcium medication in serum sickness shortens the duration of both the rash and subjective symptoms; in addition it appears to act as a preventive of such further manifestations of this disease as arthritis, giant urticaria, enlarged glands, etc. These apparent beneficial results of calcium therapy well warrant further study of this interesting subject.

SUMMARY

(1) Alternate cases of serum disease have been treated with calcium gluconate by intravenous and intramuscular injection in sufficiently large doses.

(2) Using a purely objective sign (fading of rash) as the criterion for therapeutic effect, it was found that whereas in the control cases the rash persisted for an average period of 5.4 days, in the calcium treated group it lasted only 2.9 days.

(3) Using subjective evidence as a criterion, the therapeutic effect of calcium is still more striking, for in the control cases the symptoms (itching, arthralgia, headache, cramps, nausea, etc.) lasted 7.1 days, but in the calcium treated cases the duration was only 3.3 days.

(4) Unfavorable reports in the use of calcium salts for serum disease are in all probability the result of insufficient administration of readily assimilable preparations.

(5) The alternate case method of treatment offers a better means of estimating the therapeutic value of a drug than the treatment of an uncontrolled group.

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CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

FOUNDED BY RICHARD C. CABOT, M.D.

TRACY B. MALLORY, M.D., *Editor*

CASE 22041

PRESENTATION OF CASE

A fifty-nine year old colored American woman was admitted complaining of cough, weakness, and vomiting.

About three months prior to admission the patient had severe sore throat which persisted for about a week and was followed by a cough which gradually increased in severity and frequency. At the same time there was progressively increasing expectoration and for about three weeks before entry she raised approximately two teaspoonfuls of yellowish-white frothy material every ten or fifteen minutes. This material seemed to come up to her throat without exciting a cough and she coughed only to bring it out. There was no postural or morning increase of expectoration. There were no sleep disturbances, hemoptysis, or chest pain. About two months after the onset of her illness she developed tenderness in the midepigastrium which was associated with anorexia. The loss of appetite improved but the soreness in the abdomen continued. A week before entry the anorexia returned and was associated with nausea after meals. Two days later she began to vomit a cupful of greenish bitter material before breakfast. Occasionally she vomited recently ingested food directly after other meals. There was no hematemesis or severe abdominal pain. Her weight decreased from 182 to 164 pounds during the three months of her illness. She became rather weak but spent only the two days preceding her admission in bed. During this time she had slight pain in her shoulder upon movement. There were no chills or fever although she thought that she perspired somewhat more than she did previously, especially at night. She had had some slight dyspnea with exertion for several years.

A hysterectomy for uterine fibroids was done fourteen years before entry. An x-ray at that time showed a rather tortuous aorta with a heart slightly enlarged downward and to the left. Six years later a slowly growing cyst of the parotid of some twelve years' duration was removed.

Physical examination showed a well-developed and nourished Negress. The skin was hot and dry. Oral hygiene was poor. The left border of cardiac dullness was 10.5 centimeters from the midsternal line; the right only one centimeter. The supracardiac dullness was 7 centimeters in width. The heart rate was 120 and the rhythm regular. There was a high pitched systolic murmur best heard at the left border of the sternum between the third and fourth ribs. A_2 was present but indistinct. The blood pressure was 140/70. The lungs were clear. An occasional peristaltic sound was heard under the sternum at the fourth interspace. The whole upper abdomen was rather tense and tender. The aorta could be felt pounding violently in the abdomen but no murmur was audible over it. Vaginal examination showed only the stump of the cervix, which was not remarkable.

The temperature was 101°. The respirations were 25.

Examination of the blood showed a red cell count of 4,260,000, with a hemoglobin of 100 plus per cent. The white cell count was 10,650, 68 per cent polymorphonuclears. The stools were negative. A Hinton test was negative. An electrocardiogram showed a sagging S-T_1 with slight inversion of T_3. Lead 2 was not properly standardized.

X-ray examination of the chest showed the heart to be considerably enlarged, more marked in the region of the left ventricle. The aorta was quite tortuous. The lung fields were clear. A gastrointestinal series showed no lesion of the stomach or duodenum. There was a small hernia of the cardia through the esophageal hiatus. A filling defect in the esophagus was considered to be of extrinsic origin, probably resultant upon a localized tortuosity or aneurysm of the aorta. A Graham test was negative.

The patient's temperature remained between 99° and 101°, and the pulse between 90 and 110. She continued to complain of anorexia and also some vague substernal distress. Eight days after admission she had anuria for twenty-four hours. While in the lavatory she fainted. When seen five minutes later she was found to be unconscious and flaccid. The respirations were 20 per minute and regular. The heart had a rate of 80 and the sounds were feeble and regular. The neck veins were distended. Attempts at stimulation were of no avail and she died ten minutes later. The heart continued to beat a few seconds after respirations had ceased.

DIFFERENTIAL DIAGNOSIS

DR. WILLIAM B. BREED: I am going to discuss this case in two phases. Having given it considerable thought and having suffered a lot

of mental anguish over it, at 10:30 last night I decided that a diagnosis could not be made. Furthermore, I felt that if I even mentioned the diagnosis in differential I should consider myself lucky.

This history is reminiscent of the various stories we have heard here lately. It is possible that the increasing cough might be a small cervical gland following tonsillitis which was discharging into the pharynx; but I think that is rather far fetched. One gathers that the trachea may have been irritated and in certain ways the story brings to mind the famous Hartford case we had here two or three weeks ago, in which we found the stomach and colon in the left pleural cavity. There is nothing here which leads to any one certain diagnosis. We can say that she has esophageal irritation, possibly some obstruction, and some tracheal irritation, which brings up the question as to whether she has an aneurysm. There is the question, again, as to whether she has a diaphragmatic hernia. There is a significant absence of real pain here which I think is important in ruling out some of the conditions that occur to me.

The loss of weight is perfectly consistent with the fact that she has not been eating much. The slight pain in the shoulder might make one think of some reference from the diaphragm, but when they say that the shoulder hurts on motion that rather leads one away from diaphragmatic reference.

A diverticulum of the esophagus occurs to me on reading this over. Later on you will find that there is no diverticulum according to x-ray and other findings.

Then there is the question of the soreness in the midepigastrium. That of course could go along with the possible diaphragmatic hernia. It could go with an abdominal aneurysm. I am only mentioning these various possibilities that occur to me in the history before going on to further examinations.

The past history is really not very important except that it does indicate that she may have had some hypertension; the x-ray fourteen years previously showed a tortuous aorta with a heart which was slightly enlarged downward and to the left, presumably on a hypertensive basis. The slowly growing cyst of the parotid removed twelve years previously, with no recurrence, I think is of no importance.

"The supracardiac dullness was 7 centimeters in width." That may or may not be of any importance. It is probably the one physical finding in which there is more error made than any other that I know of. It is important to determine when there is demonstrable supracardiac dullness what the location of it is, either to the right or left, in seeking a possible aneurysm.

The high-pitched systolic murmur means nothing to me at all. Nothing is said about its being persistent and having relation to breathing, and it seems to me without any other findings we must pass it off as being of no help in interpreting the cardiac findings.

The peristaltic sound under the sternum is, in my opinion, not significant because peristaltic sounds are heard in the chest frequently without necessitating a diagnosis of diaphragmatic hernia with the stomach in the chest; but that is a perfectly good lead.

All of these laboratory data are very interesting but they do not confirm any one of the various diagnoses that one thinks of in the history; namely, thoracic or abdominal aneurysm, diaphragmatic hernia, or possibly a diverticulum high up in the esophagus. It is very interesting that no mention is made of the urinalysis or blood chemistry. I have to assume that she has no uremia.

She had a temperature by mouth ranging to 100°, once to 101°, a pulse of 90 to 100, and toward the last the respirations were high, up to thirty; not a very impressive looking chart. She has no anemia and no significant evidence of infection. The white cell count was 10,650, with 68 per cent polymorphonuclears. One would certainly think, if this turns out to be a uremic death, that she would have had at this time some anemia.

The best we can say about the electrocardiogram is that it does not indicate any severe coronary disease at the present time, nor any evidence of occlusion in the past, and that it is not of significance, except negatively.

"A gastrointestinal series showed no lesion of the stomach or duodenum." That is important.

"There was a small hernia of the cardia through the esophageal hiatus." That is not an uncommon finding and probably is of no significance in this particular case. Certainly at the time the x-ray was taken there could have been no large diaphragmatic hernia and no thoracic stomach or colon. It says, "A filling defect in the esophagus was considered to be of extrinsic origin, probably resultant upon a localized tortuosity or aneurysm of the aorta."

Will you speak about the x-rays, Dr. Holmes?

DR. GEORGE W. HOLMES: Studying the films in the brief period that I have had does not lead me to any conclusion. I might go over some of the films briefly.

Here are the gallbladder films. A perfectly normal appearing gallbladder is seen in all the films.

The chest film shows normal motion of the diaphragm on both sides. There is no evidence

of fluid in the pleural space. The lungs are of normal brilliancy. The heart is definitely increased in size and I should say that the greatest increase was downward to the left in the region of the ventricle, with moderate increase in the supracardiac shadow, perhaps due to tortuosity of the aorta.

We will look at some of the lateral and oblique views. Here is one showing the esophagus filled with barium. It shows the aortic knob fairly well. There is some calcification in the walls of the aorta, also an indentation here which I do not think is the one we are interested in. Probably this is the area discussed in the notes. This is the small hernia of the stomach described. A view in the opposite direction shows a mottled defect in the shadow of the esophagus but no actual irregularity of outline. This film shows the hernia with narrowing of the esophagus at this point.

In this film you see the arch of the aorta fairly well, and here the esophagus partially filled with barium. Such a defect as that does not mean very much to me.

Here is a small film showing the esophageal mucosa. It looks perfectly normal to me. Here is one showing a round defect, which looks like the normal aorta and not an aneurysm. This film also shows the mucosal pattern very well in the involved area. There is no irregularity.

The films of the stomach show nothing unusual.

As far as I am able to interpret the findings, there is no evidence of an intrinsic lesion in any part of the gastrointestinal tract. The changes in the heart and great vessels are those of arteriosclerosis with tortuosity of the aorta.

DR. BREED: If we may depend upon the x-ray, and I think we can in this case, we can rule out any intrinsic disease of the esophagus, any aneurysm in the thorax, and any diaphragmatic hernia.

If that was really anuria and not sphincter disturbance, with a large bladder, that is of some importance; and I take it that they probably did determine whether her bladder was full, and I have to interpret this as anuria and not a full bladder. When a patient goes into anuria suddenly in one day one is faced with some rather fantastic possibilities. We have no evidence that she had any kidney disease. We can possibly imagine a new growth obstructing both ureters, or pressing on both ureters; also a thrombosis of the abdominal aorta, with a thrombus of the renal arteries, but there is no particular evidence of that. So that we have to take that statement and not explain it very well.

I do not understand why she was in the lavatory. She had a temperature of 101°, but she got there and fainted. No one saw her, and so we do not know whether she had pain in the terminal episode. We know nothing about it except that she died in the lavatory.

This brings me up to 10:30 last night. I awoke in the middle of the night, and something told me that this woman had a dissecting aneurysm. I said, "All right." So I took the syndrome of dissecting aneurysm and put it back over this history with the data and I must say that except for the absence of pain, it makes more sense than anything else I can think of, and the more one thinks about it the more it seems to fit the diagnosis of a slowly dissecting aneurysm. We know that she had had hypertension in the past, at least we assume she had it fourteen years previously, so she has a setting for that. We know she has arteriosclerosis. We know she does not have syphilis, that the aneurysmal symptoms, as a matter of fact, began in the throat, gradually worked down toward the abdomen. Then we come to this twenty-four hours of anuria which may be explainable on the basis of a dissecting aneurysm down the thoracic and abdominal aorta, involving the renal arteries.

In my first attack on this case I considered this diagnosis but threw it out because there was no history of real pain in the story. Of course that is the hurdle that we have to get over. We do not know how much pain she had before death, no one knows; and I can conceive of a slowly dissecting aneurysm that would not give much pain but would explain this picture better than anything I can think of.

I am going to be either very wrong or very right in this case, and I do not want you to think that this is a guess. I actually believe she did have dissecting aneurysm. She died rather suddenly. She might have had rupture into the pericardium, hemopericardium; that would account for the picture described. Shortly before her death the pulse rate was not rapid. As you know, the neck veins were distended, and —this is rather theoretical—but inasmuch as these people do die of rupture into the pericardium very often, I am going to say that I think she had a dissecting aneurysm which had got as far as the renal arteries and that her death was due to a hemopericardium.

DR. T. B. MALLORY: We would welcome any other suggestions.

A PHYSICIAN: How about abdominal aneurysm in the region of the renal artery?

DR. BREED: All right.

DR. MALLORY: The vote is registered.

DR. PAUL D. WHITE: I think the observation of engorgement of the neck veins at the time when she should have been in a state of shock is significant and backs up Dr. Breed's feeling

that there should be something in the pericardium, possibly from a ruptured heart.

CLINICAL DIAGNOSES

Coronary heart disease.
Ruptured coronary infarct with hemopericardium?

DR. WILLIAM B. BREED'S DIAGNOSES

Dissecting aortic aneurysm.
Hemopericardium.

ANATOMIC DIAGNOSES

Rheumatic myocarditis.
Endocarditis, chronic rheumatic, with calcification of the tricuspid valve, with stenosis and calcification of the mitral valve.
Hydrothorax, bilateral.
Arteriosclerosis, moderate, generalized.
Diaphragmatic hernia, small.
Operative scars: hysterectomy, appendectomy and bilateral salpingo-oophorectomy.

PATHOLOGIC DISCUSSION

DR. MALLORY: Dr. Breed's explanation of the symptomatology seems very good, a little better than we actually found, however.

The autopsy was done with a good deal of care and Dr. Holmes, who was doing it, was very much perturbed because when he finished the autopsy he could find no cause of death whatever. The positive findings were extremely scant. She had a definitely old but mild mitral stenosis with calcified leaflets, but no great shortening of the chordae tendineae. The aortic valve was negative. The pericardium was negative. The aorta showed only traces of atheroma. The coronaries were capacious. He called Dr. Bradley who went over all the organs with extreme care and could find nothing else. We examined the head. The brain was absolutely normal, but I think that now, having seen the microscopic sections, we have the answer to the case.

Will anyone hazard a diagnosis after that statement?

A PHYSICIAN: Did the trachea and throat show anything?

DR. MALLORY: The trachea and throat were negative. There was a small diaphragmatic hernia. The rest of the esophagus was negative. A few petechial hemorrhages were found in the stomach.

DR. WHITE: Are you referring to the microscopic sections of any particular organ?

DR. MALLORY: I will even go so far as to say the sections of the heart.

DR. WHITE: Syphilitic myocarditis?

DR. MALLORY: No; rheumatic.

The heart shows more Aschoff bodies per cubic millimeter than any heart I have ever seen. I have seen one other death, in an individual in his fifties, with absolutely nothing to show for it but an acute rheumatic myocarditis with essentially negative valves. It is one of the rare possibilities of sudden death. The exact mechanism of death I think is pretty hard to guess. The most reasonable would be heart block, although the symptoms of the terminal five minutes do not sound much like it.

DR. BREED: What about these symptoms in relation to irritation of the esophagus, trachea and various other things? They are not explained.

DR. MALLORY: We found absolutely no explanation.

DR. WHITE: A severe sore throat might have started it.

A PHYSICIAN: Was the heart greatly dilated?

DR. MALLORY: Moderately, not particularly.

DR. WHITE: How much did the heart weigh?

DR. MALLORY: 300 grams.

DR. WHITE: Then there must have been dilatation in life. By x-ray it was considerably enlarged.

A PHYSICIAN: Would you have any idea how old that lesion was?

DR. MALLORY: It is consistent with the duration of her symptoms, three months.

DR. BREED: Of course the fact that she did not have any pain is an important feature which points away from my diagnosis.

DR. MALLORY: Yes.

CASE 22042*

PRESENTATION OF CASE

First Admission. A forty-one year old American dietitian was admitted complaining of cough and sputum.

The patient had whooping cough at the age of six and had coughed with varying intensity ever since. She remained fairly well, however, until the age of nine when she developed pneumonia and thereafter was always "quite delicate". At thirteen years of age she was sent to a sanatorium, where she remained six months. All tests done there were said to be negative. Her cough continued and at the age of twenty-five she contracted influenza, which confined her to bed for five weeks. Six years later she again had pneumonia, evidently lobar in type, and was ill for eight weeks. Fluid was said to have been present in the chest although it was not tapped. At thirty-nine she had another attack of influenza at which time, during paroxysms of cough, she had two hemoptyses, one of which consisted of about a pint of blood. There had been blood streaked sputum for several years prior to this episode but never any gross hemoptysis. She was then sent to another sanatorium where she remained for a year and a

half and was discharged a month prior to entry here. Her cough was still present and was occasionally paroxysmal and productive of greenish sputum which was frequently noisome. She noticed wheezing sounds in the chest and for the past two years had a fairly constant pain in the left chest aggravated by deep inspiration and cough. She did not think that she had run a febrile course, and never had night sweats. Repeated examinations of sputa showed no tubercle bacilli.

The patient had migrating painful swollen joints in childhood. The details were not recalled. At one time as a child she developed numerous black and blue blotches on the skin. Two years before entry she was told that she had a leaking heart valve. An attack of measles complicated by an otitis media had left some impairment of hearing.

Physical examination showed a well-developed and nourished woman sitting quietly in bed. There was a very marked right congenital torticollis. The right chest was slightly more prominent posteriorly than the left. Expansion was limited in the lower half of both lungs. Tactile fremitus was normal. There was moderate dullness over the entire posterior chest. Bronchovesicular breath sounds were heard in the left infraclavicular region and in the entire posterior chest. Bronchial breathing was audible over the lower dorsal spine and many fine moist râles were heard in both upper paravertebral regions. The heart was not enlarged. There were no murmurs. The blood pressure was 170/105. There was slight clubbing of the fingers.

The temperature was 99°, the pulse 100. The respirations were 20.

Examination of the urine was negative. Examination of the blood showed a red cell count of 5,070,000, with a hemoglobin of 95 per cent. The white cell count was 18,000, 68 per cent polymorphonuclears. The sputum was greenish-white in color and contained no blood, tubercle bacilli or spirochetes. The stools were negative. A Hinton test was negative. Intradermal tests with one-tenth cubic centimeter 1:20,000 old tuberculin were negative after forty-eight hours.

X-ray examination showed mottling along the course of the lung markings to both bases. There was bilateral prominence of the hilar shadows. The right leaf of the diaphragm was somewhat irregular in outline. After lipiodol the bronchial visualization was not satisfactory although the findings were considered consistent with bilateral lower lobe bronchiectasis.

The patient was treated with postural drainage. A bronchoscopy showed diffuse congestion of the bronchial mucous membrane and a profuse secretion, the character of which was not recorded. The patient's condition remained unchanged. The course was afebrile and she was discharged on the seventeenth day.

Second Admission, eight months later.

Following her discharge the patient received a series of three x-ray treatments to the chest after which her cough and sputum increased in amount but later decreased. Thereafter her condition was unchanged for about four months, when the cough and sputum began to increase. The latter was approximately 5 to 6 ounces daily and was slightly more tenacious than previously. In a period of seven months her weight decreased from 140 to 127. There was a slight evening rise of temperature to 99.5°. For several weeks prior to reëntry she became somewhat short of breath and the pain in the left side of the chest was increased in severity. For three weeks preceding her return to the hospital she had three or four loose watery stools daily. There was no melena.

Physical examination showed moderate pallor of the skin and mucous membranes. Tenderness was elicited over the frontal sinuses. The heart was considered to be at the upper limit of normal size. A presystolic rumble and a loud snapping first sound were heard at the apex. The blood pressure was 140/95. Bronchovesicular breath sounds were heard in both infraclavicular regions, and some fine moist râles were present in the lower axillae and bases posteriorly.

The temperature was 99°, the pulse 100. The respirations were 25.

Examination of the blood showed a red cell count of 5,700,000, with a hemoglobin of 90 per cent. The white cell count was 13,400, 84 per cent polymorphonuclears. The sputum contained neither spirochetes nor tubercle bacilli. The stools were semi-formed but otherwise normal.

X-ray examination showed a spread of the disease with complete collapse of the left lower lung and marked displacement of the heart to the left. The entire right lung field was mottled and showed several areas of dullness about 3 centimeters in diameter in the midlung field.

She was treated with postural drainage and a ketogenic diet with but little improvement. Ten days after entry the lower half of the left chest posteriorly showed diminished tactile fremitus with dullness to flatness upon percussion. In this region there were bronchial breath sounds, egophony, and bubbling râles. An x-ray after the injection of lipiodol showed some dilated incompletely filled bronchi in the left lower lobe. Those in the right middle and lower lobes were also dilated. There was an outpouching of the right main bronchus opposite the region of the branching of the upper lobe bronchus. Later a bronchoscopy was attempted but the patient developed marked dyspnea and cy-

anosis which persisted for eighteen hours. Thereafter, however, drainage improved slightly and she was discharged seven weeks after entry. Her temperature had fluctuated between 98° and 100° during this admission.

Final Admission, four months later.

For a short time after her discharge the patient felt considerably better but in about a month she began to have increased breathlessness to such a point that even walking produced respiratory distress. Later the cough became progressively worse and more paroxysmal in character. She expectorated about two ounces of sputum daily. It no longer had a foul odor. Four weeks preceding reëntry she noticed swollen ankles. This persisted and was accompanied by slight swelling of the hands. There was also tenderness in the right subcostal region and epigastrium. Shortly afterwards she began to have attacks of sharp pain and a sensation of constriction under the left breast. The pain radiated to the left shoulder and down the ulnar side of the arm. These attacks were usually precipitated by exercise and were relieved promptly by immobilization. There was also slight swelling of the abdomen and occasional small hemoptyses.

Physical examination showed a poorly nourished woman who was markedly cyanotic and dyspneic, with evidence of expiratory difficulty. There was slight exophthalmos but no other ocular muscle dysfunction. An increase in the anteroposterior diameter of the chest was noted. Both bases posteriorly up to the angles of the scapulae were flat to percussion. The remainder of the chest was hyperresonant. There were numerous coarse moist râles audible generally. The left border of cardiac dullness extended 11.5 centimeters from the midsternal line and the right border was percussed at the right sternal edge. The sounds were rapid but regular. One examiner found no murmurs or thrills, and another recorded the observation of a presystolic rumble and a snapping first sound in the mitral area. The abdomen was distended, with shifting dullness in the flanks. The liver was enlarged to percussion and tender. The spleen was not palpable. There was massive edema of the extremities up to the sacrum.

The temperature was 98°, the pulse 130. The respirations were 35.

An electrocardiogram showed sino-auricular tachycardia, a low T_1, flat T_2, and inverted T_3. P_2 was prominent and slightly notched. There was slight elevation of the S-T_4 take-off and an upright T_4.

X-ray examination showed marked increase in all lung markings. The heart shadow was considerably increased in size, particularly on the right side and in the region of the pulmonary conus. There was believed to be some fluid present at the bases.

She was treated with diuretics and palliative measures but her condition failed to improve. The temperature rose to 103° and tubular breathing became audible in the left lower chest posteriorly. She became progressively more dyspneic, cyanotic, and edematous, and died after being in the hospital two weeks, fourteen months after the first entry.

Differential Diagnosis

Dr. Edward F. Bland: This lengthy clinical record may be discussed briefly. There appear to be two important aspects; namely, a long history of (1) pulmonary disease beginning with whooping cough at the age of six and ending with (2) the signs of rapidly progressive right-sided heart failure. It seems likely that the two conditions are closely related.

The important features of the pulmonary history are the frequency of acute respiratory and pulmonary infections during the earlier course followed by symptoms indicative of chronic pulmonary disease becoming worse during the last four years of the patient's life, together with clinical, x-ray, and bronchoscopic evidence of extensive bilateral pulmonary disease, fibrosis, and bronchiectasis. The finding of clubbed fingers in the absence of clear evidence of congenital heart disease or of subacute bacterial endocarditis further supports the impression of important and long-standing pulmonary disease.

Tuberculosis seems unlikely in view of the clinical course, the x-ray findings, the repeatedly negative sputum examinations for acid-fast bacilli, and the negative tuberculin reaction. The possibility of malignant disease of the lung (either carcinoma or lymphoma) is remote. Mention is made of "three x-ray treatments to the chest" following the patient's second admission to the hospital. At first glance it suggests that malignant disease was suspected. However, upon further consideration it is obvious that if this possibility had been seriously entertained more extensive exposure would have been carried out. Furthermore, a short while ago a therapeutic test with minimal exposure to roentgen rays was being tried in this hospital for various nontuberculous and nonmalignant pulmonary conditions. In the absence of positive results, it has subsequently been discontinued. I must assume that this is the explanation for the above reference to the three x-ray treatments. It is reasonable to suppose then that this patient had chronic nontuberculous pulmonary infection with extensive fibrosis and bronchiectasis.

The second and more or less terminal phase of the clinical course began four months before death with the appearance of symptoms and signs of rapidly progressive heart failure which did not respond to the usual therapeutic measures. The x-ray picture and the physical

signs are primarily those of right ventricular dilatation and failure. I believe we are dealing here with the so-called pulmonary type of heart disease (cor pulmonale), the result of long-standing strain primarily on the right side of the heart with ultimate hypertrophy, dilatation and failure of the right ventricle. Extensive pulmonary fibrosis is the most frequent cause, less often obliterative disease of obscure etiology involving the pulmonary arteries is responsible.

The electrocardiogram is of considerable value when cor pulmonale is suspected. We expect to find right axis deviation and its absence casts considerable doubt upon this probable diagnosis, unless there is also present some other complicating factor causing left ventricular strain also. Hypertension and aortic valve disease are the most frequent causes of left ventricular hypertrophy. No mention is made in the clinical report of axis deviation in the electrocardiogram and we have no way of knowing whether it was present. The upright T wave in lead four suggests that it may have been present.

It is of some further interest to speculate on the possibility of rheumatic heart disease and mitral stenosis. The vague rheumatic history in childhood, the discovery of an apical systolic murmur in later life, and the presence during the last admission of an inconstant presystolic rumble are of interest but do not constitute conclusive evidence of rheumatic heart disease. It may be that the inconstant diastolic rumble was a functional murmur dependent upon right ventricular dilation and comparable to a similar murmur frequently observed during severe rheumatic carditis in children. In these latter instances it has been shown recently that the diastolic rumble is dependent upon cardiac dilatation, presumably of the left ventricle. In this patient, although we cannot exclude minimal rheumatic mitral valve disease, it seems unlikely that it was an important factor in the ultimate failure of the heart. Furthermore, the last x-ray film shows considerable enlargement in the region of the right ventricle and the pulmonary conus, but no clear evidence of left auricular enlargement. This suggests that the important point of obstruction to the blood flow was not at the mitral orifice but farther back and in the pulmonary circuit itself.

A final symptom warrants further comment; namely, during the last admission to the hospital mention is made of attacks of constriction and pain under the left breast radiating to the shoulder and down the left arm and promptly relieved by "immobility". Lead four of the electrocardiogram is suggestive of coronary disease. Whether we will find evidence later at postmortem of coronary changes, I am unable to predict. It seems unlikely that the terminal heart failure was dependent upon important coronary artery disease.

In closing then the most reasonable deductions to be made from this clinical record are that we are dealing here primarily with long-standing nontuberculous pulmonary infection, fibrosis, and bronchiectasis; and "cor pulmonale" with right ventricular hypertrophy, dilatation, and congestive failure. Although unlikely, we cannot definitely exclude the possibility of minimal mitral valve disease or of coronary artery sclerosis.

Clinical Diagnoses

Bilateral bronchiectasis.
Bronchopneumonia.
Rheumatic heart disease with congestive failure.

Dr. Edward F. Bland's Diagnoses

Bronchiectasis, bilateral.
Pulmonary fibrosis.
Cor pulmonale.
Mitral stenosis?
Coronary artery sclerosis?

Anatomic Diagnoses

Bronchiectasis, bilateral, lower lobes.
Bronchopneumonia, diffuse, bilateral.
Pulmonary edema, diffuse.
Pulmonary emphysema, slight, bilateral.
Pleuritis, chronic fibrous, bilateral.
Pulmonary tuberculosis, healed, left apical.
Rheumatic heart disease, healed, with mitral and tricuspid stenosis, moderate.
Bacterial endocarditis, recent, mitral.
Cardiac hypertrophy, right ventricular (cor pulmonale).
Mural thrombus, right auriculus.
Pericarditis, acute fibrinous and chronic fibrous with calcification.
Chronic passive congestion of liver, spleen, and kidneys.
Cholecystitis, chronic.
Cholelithiasis.
Calculi in cystic duct with obstruction.
Peritonitis, acute generalized, ? origin.
Ascites.
Peripheral edema.
Pulmonary osteoarthropathy, fingers.
Torticollis, right.
Leiomyoma uteri.
Follicular cysts of ovaries.

Pathologic Discussion

Dr. Tracy B. Mallory: Dr. Bland was quite correct in his two chief diagnoses. The physicians on the ward agreed on the matter of bronchiectasis but felt that the heart condition was probably rheumatic with mitral stenosis. The

autopsy, I believe, supports both points of view. There was definite rheumatic heart disease with both mitral and tricuspid involvement. A small patch of acute endocarditis was found on the mitral valve. The right auricular appendage was filled with a firm adherent thrombus. The degree of mitral stenosis was, however, not very great and the tricuspid involvement would, at most, have caused only a very slight regurgitation. The right ventricle, however, was markedly hypertrophied, measuring 10 millimeters in thickness. I should doubt if the valvular lesions were adequate to explain this, and I am inclined to agree with Dr. Bland that there was a significant element of cor pulmonale. The stabbing substernal pain which had been complained of was certainly not due to coronary disease, and since we found a slight, fresh, apparently healing, fibrinous pericarditis I imagine there is little question that it was caused by that. Interestingly enough, there was evidence of a localized old area of calcified pericarditis about 3 centimeters in diameter. I am inclined to tie this up with several calcified nodules found at the apex of the left lung and assume that at one time she had an active tuberculosis with beginning involvement of the pericardium. This was evidently far back in the patient's history, however, since no active tuberculous lesions were discovered. The bronchiectasis was limited to the two lower lobes and was accompanied by a considerable degree of pulmonary fibrosis. The upper lobes showed a complex mixture of emphysema, diffuse edema, and localized patches of bronchopneumonia.

A complete surprise in the case was a very early generalized peritonitis. This was most marked in the left upper quadrant, just beneath the diaphragm. Although no definite subdiaphragmatic abscess could be made out, there was evidence of some purulent infiltration of the left leaf of the diaphragm itself, and since the lower lobe of the lung was densely adherent it was felt that one of the bronchiectatic cavities had probably penetrated the diaphragm and was responsible for the beginning peritonitis.

The liver, as might be expected with such marked right-sided heart hypertrophy, showed an extreme grade of chronic passive congestion. The gallbladder contained no bile pigment and many small stones. One stone completely plugged the cystic duct.

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ARE EXAMINATIONS ADEQUATE?

A STOCK objection to the introduction into the statute of the characterization of a medical school that it be "approved by the board", if its graduates are to be accepted for examination for registration is that the examination now provided by law furnishes adequate protection against incompetent practitioners of medicine. Is this assumption justified?

The wording of the statute is that the "examination shall be sufficiently thorough to test the applicant's fitness to practice medicine". The first question is whether any examination which the board can give can be adequate to test fitness for practice. The qualifications are knowing, knowing how and that peculiar quality which ensures that the physician shall do the best he knows how at all times. They may be stated in other terms as knowledge, skill and character. Which of these is most important? The qualified physician must have them all and none can be omitted. It is irrelevant, therefore, to say that one is more important than another since all are essential.

To what extent can the examination test these three qualities? Information can be tested well. The examination can be made so long, so thorough, so rigorous, so exhaustive, that the informational content of the mind of the candidate can be adequately exposed by written and oral exercises. Skill can be brought out by confronting the candidate with situations which exhibit and test his ability in practice. But how shall character be tested? Many persons insist that character *is* the most important qualification for practice. Knowledge and skill grow with experience in practice: they doubt if character is improved pari passu.

How then can the board assure itself of the character of the candidate? It cannot assure itself by any test which will give it first-hand knowledge. Since it must depend on other persons, on whom shall it depend? Shall it depend on friends of the candidate, likely to recommend without discrimination? Shall it depend on the hospital where the candidate has had an internship? Shall it depend on the medical school where the candidate has spent four years?

It might depend on the hospital, if the internship were required before admission to the written examination, and if the hospital would make a careful study of its interns and report faithfully and honestly. This is a responsibility few hospitals are likely to assume unless identified with medical schools in preparing the candidate for his medical degree.

It is the medical school which ought to have in mind at all times throughout the four years this question: is this candidate a suitable person to be entrusted with the responsibilities of the practice of medicine? In the school also, the examinations may adequately test knowledge and skill, but only close personal contact with the student will reveal his character. Many medical schools are accepting this responsibility and consequently many state boards are depending on such schools as are meeting this responsibility well, for information as to character.

If medical schools fail in this duty, if their recommendation is found to be of little value, if it is a matter of experience that they show little discrimination in the kind of person on whom they confer degrees, their recommendation should not be accepted. It is in this respect that the nonapproved schools are seriously deficient. If the candidate can pay the tuition and can learn enough to pass the examination (often deplorably low) and conducts himself while in the school without flagrant disregard of its rules, little attention is paid to his past record or to those personal qualities without which the candidate is not a physician but a mere trader, bartering for money the health and welfare of the sick and suffering.

The character of the physician may be no more essential than his knowledge and his skill, but it is the finest flower of his years of study and discipline and cannot be tested by examination.

"CONCERNING MR. MILQUETOAST"

PROBABLY since the very beginning of medicine there have been conceptions and ideas having to do with matters of health that have been more or less generally accepted by the lay public, but to which the medical profession has given little attention. The particular ideas of this kind that have been disregarded have varied from time to time according to the remoteness of their concepts to the particular aspects of scientific medicine that have been stressed at the time. The scientist has ever been averse to work in fields where he had no or very poor scientific tools with which to work, and was (and is) just not interested in such things. An example was the almost universal point of view twenty-five years ago that infection was the cause of practically all ills. Now we know that the outcome of many infections is much more related to the patient's resistance than it is to the fact that a certain infection had gained a foothold on the system. This resistance at times is frequently connected with the diet and manner of life of the individual over a period of years preceding the infection. Since the impetus given to the scientific study of the diet that has been stimulated by the work of Minot, Sippy, Joslin, and many others the knowledge in this field has grown rapidly and is probably on the threshold of much greater discoveries in the near future. For example, relationships between vitamin C (Cevitamic Acid) and the suprarenal cortex have been established thereby bringing vitamins and hormones into relationship.

Now let us go back to the sentence at the start of this editorial and consider the widespread conception expressed by the compound word "milksop", or the similar conception recently popularized in the "funnies" concerning "Mr. Milquetoast." This idea has certainly existed in the English literature for hundreds of years and indicates a feeling that the person who drinks a lot of milk is not so much of a man as the person who drinks other fluids or eats, perhaps, more red meat. Now is it scientifically possible that an excessive milk diet over a long period of time might produce a "Mr. Milquetoast" in an individual who would have been a "tough guy" on some other diet? We certainly do not know this, but there is a very interesting possibility that this might be true if the newly recognized pituitary hormone, prolactin, which governs the secretion of milk is itself in some part secreted in milk. As yet no experiments have been published that show whether this is true. But consider the indirect effects of prolactin. Riddle[1] and his coworkers have shown that when an animal has been properly "primed" with injections of prolan or theelin, injections of prolactin will change the personality of the animal to such an extent that it will take care of a young animal that it would otherwise eat. This gives us a hormonal explanation of motherly-love. From this concept it is not a far jump to the concept that possibly too much of this hormone taken in the form of food will tend to produce maternal characteristics in an individual who might otherwise be a "he-man".

REFERENCE

1. Riddle, O., Lahr, E. L., and Bates, R. W.: Maternal behaviour induced in virgin rats by prolactin. Proc. Soc. Exper. Biol. & Med. 32: 730 (Feb.) 1935.

WHY SHOULD PRACTITIONERS GO TO THE ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY?

THE *New England Journal of Medicine* will report accurately the scientific program presented at the June meeting in Springfield as well as the other medical and nonmedical problems which come up at the Council Meeting and the Annual Meeting. The representatives of the commercial houses will call at the practitioner's office and keep him posted on the new appliances that may be of use in the diagnosis, treatment and prevention of disease.

The postgraduate courses offered by the Society will bring to the practitioner's door the recent advances in medicine. With all these opportunities to keep the practitioners up-to-date, why should one spend the time and money to attend the Annual Meeting? No amount of reading (if it is done) can take the place of contact and conversation with the men who present the scientific program. The value of a man's work can be much better appreciated after one has seen and heard the individual. The broadening influence of meeting and talking with fellow practitioners must be apparent to everyone.

The scientific exhibit cannot be brought home to the individual. The practitioners will see that equipment for complete medical study exists in Springfield and will realize that there may be several centers in Massachusetts to which they may turn for consultations. Finally, the three days' vacation will be good for the practitioner's health and make him the more appreciated by his patients.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

CLUTE, HOWARD M. B.Sc., M.D. Dartmouth College Medical School 1914. F.A.C.S. Professor of Surgery, Boston University School of Medicine. Surgeon-in-Chief, Massachusetts Memorial Hospitals. Surgeon, New England Baptist Hospital and New England Deaconess Hospital. His subject is "Acute Arterial Ob-

struction from Arteritis." Page 137. Address: 171 Bay State Road, Boston.

BLACKFORD, L. MINOR. B.S., M.S., M.D. University of Virginia Department of Medicine 1923. Instructor in Medicine, Emory University. Associate, American College of Physicians, December 1935. Address: 104 Ponce de Leon Avenue, N. E., Atlanta. Georgia. Associated with him is

VENABLE, JOHN H. B.S., M.D. Emory University School of Medicine 1933. Assistant Professor of Anatomy, Emory University School of Medicine. Address: Emory University School of Medicine, Atlanta, Georgia. Their subject is "Hyperglycemia and Paresis." Page 140.

BARNEY, J. DELLINGER. A.B., M.D. Harvard University Medical School 1904. F.A.C.S. Chief of Service, Urological Department, Massachusetts General Hospital. Assistant Professor of Genito-Urinary Surgery, Harvard University Medical School. His subject is "The American Neisserian Medical Society. Presidential Address." Page 142. Address: 87 Marlboro Street, Boston.

BROWN, LLOYD T. A.B., M.D. Harvard University Medical School 1907. F.A.C.S. Instructor in Orthopedics, Harvard University Medical School. Orthopedic Surgeon, Faulkner Hospital; Children's Island Sanitarium; and Boston Home for Incurables. President of the Board of Directors, Robert Breck Brigham Hospital. His subject is "Costovertebral Strain." Page 144. Address: 372 Marlboro Street, Boston.

HIGGINS, HAROLD L. A.B., M.D. Johns Hopkins University Medical School 1919. Chief of Children's Medical Service, Massachusetts General Hospital. Assistant Professor of Pediatrics, Harvard University Medical School. His subject is "Two Cases of Dwarfism." Page 148. Address: Massachusetts General Hospital, Fruit Street, Boston.

CURPHEY, THEODORE J. M.D.C.M. Queen's University, Canada, 1921. Medical Director, Simon Baruch Foundation for Research in Pneumonia. Assistant Professor of Pathology, New York University and Bellevue Medical College. Pathologist at St. John's Hospital, Brooklyn, New York, also at Meadowbrook Hospital, Nassau County, New York. Consulting Pathologist, St. Giles Hospital, Brooklyn, New York. Address: St. John's Hospital, 480 Herkimer Street, Brooklyn, New York. Associated with him is

SOLOMON, SAUL. B.A., M.D. McGill University Faculty of Medicine 1930. Formerly, Pneumonia Resident, Simon Baruch Foundation Research Laboratory, Fourth Medical Division, Bellevue Hospital, New York City. Now, Clinical Assistant, Fourth Medical Division, Bellevue Hospital. Assistant Physician, Stuyvesant Polyclinic Hospital, New York City. Address: 309 W. 19th Street, New York City. Their subject is "The Therapeutic Value of Calcium Salts in Serum Sickness." Page 150.

The Massachusetts Medical Society

STATED MEETING OF THE COUNCIL

A STATED meeting of the Council will be held in John Ware Hall, Boston Medical Library, 8 Fenway, on Wednesday, February 5, 1936, at 12 o'clock noon.

Business:

1. Call to order at 12, noon.
2. Reading record of last meeting in abstract.
3. Obituaries of Councilors who have died since the last meeting.
4. Report of Committee of Arrangements for the Annual Meeting next June.
5. Report of Auditing Committee and of Treasurer.
6. Reports of Committee on Membership and Finance.
7. Reports of committees appointed to consider petitions for restoration to the privileges of fellowship and appointment of new committees.
8. Report of Committee on Medical Education and Medical Diplomas.
9. Appointment of three delegates and three alternates to the House of Delegates, American Medical Association, for two years from June 1, 1936.
10. Appointment of delegate to Annual Congress of the American Medical Association on Medical Education and Licensure at the Palmer House, Chicago, February 17 and 18, 1936.
11. Appointment of two delegates to each of the annual meetings of the five New England State Medical Societies in 1936.
12. *Incidental Business.*

ALEXANDER S. BEGG,
Secretary.

Boston, January 28, 1936.

Councilors are asked to sign one of the two attendance books before the meeting. The Cotting Luncheon will be served immediately after the meeting.

LOCAL COMMITTEE OF ARRANGEMENTS FOR THE ANNUAL MEETING IN SPRINGFIELD

CORRECTED LIST

Chairman—Dr. Theodore S. Bacon, Dr. Allen G. Rice, Dr. Hervey L. Smith.
Publicity—Dr. Roswell S. Mace.
Ladies—Dr. William A. R. Chapin.
Historical—Dr. George L. Schadt.
Scientific—Dr. Frederick D. Jones.
Hobbies—Dr. Edward P. Bagg.
Sports—Dr. Richard A. Rochford.
Transportation—Dr. Alfred M. Glickman.

Clinics:

Springfield Hospital—Dr. Frank K. Dutton.
Mercy Hospital—Dr. George B. Corcoran.
Wesson Memorial Hospital—Dr. Frederic Hagler.

SECTION OF OBSTETRICS AND GYNECOLOGY*

C. J. KICKHAM, M.D., *Chairman*
524 Commonwealth Ave., Boston, Mass.

R. S. TITUS, M.D., *Secretary*
472 Commonwealth Ave., Boston, Mass.

EXTRAUTERINE PREGNANCY

The typical picture of an unruptured extrauterine pregnancy is about as follows: The patient skips her regular menstrual period and a few days or a week or two later begins to dribble blood, usually dark in color. Repeated attacks of severe sharp unilateral low abdominal pain occur, sometimes accompanied by fainting.

Examination at this time shows a very slightly enlarged uterus and a unilateral tender mass, which increases definitely in size if examination is repeated at intervals of two or three days. Temperature, white count, and sedimentation time are normal.

Unfortunately there are many factors which may obscure the typical picture of an ectopic pregnancy. The differential diagnosis in the main is from pelvic inflammation, cystic ovary, early miscarriage and rupture of Graafian follicle with unusual bleeding.

A large percentage of tubal pregnancies are preceded by chronic pelvic inflammation, so that the new symptoms may be misinterpreted as a continuation of the previous trouble.

Cystic ovaries often cause sharp pain and by interference with the estrin-progestin balance cause irregular menstruation simulating ectopic gestation. On the other hand, the patient may have a cystic ovary on one side and an extrauterine pregnancy on the other.

In the above conditions the Aschheim-Zondek test, if one dares to wait for it, provides conclusive evidence.

An early miscarriage with severe pain may simulate extrauterine pregnancy with impending rupture, and in doubtful cases ether examination and perhaps curettage must be resorted to, to clear up the diagnosis.

Rupture of Graafian follicle with undue hemorrhage may simulate tubal abortion in that the patient has an attack of severe pain, usually midway between periods with development of a tender boggy resistance in the posterior cul-de-sac. Regularity of the periods and a negative Aschheim-Zondek test should enable one to make the diagnosis clear.

Atypical histories are perhaps more common than typical ones in early ectopic pregnancy. Some patients have amenorrhea and no suspicion that they are otherwise than normally pregnant until rupture suddenly occurs. Less commonly, menstruation may be perfectly regular. Sometimes the slow leaking of blood into the peritoneal cavity with consequent protein decomposition and absorption may cause elevation of temperature and leucocytosis.

The most valuable points in the early diagnosis of extrauterine pregnancy are any irregularity of menstruation with intermittent attacks of pain, plus a rapidly increasing, exquisitely tender mass, with a temperature normal, or only slightly elevated, and a positive Aschheim-Zondek test.

Unrecognized extrauterine pregnancy may terminate in one of three ways: first by tubal abortion, secondly by rupture, and thirdly (very rarely) development to term when so-called "missed labor" occurs.

When abortion of the embryo through the fimbriated extremity of the tube occurs, there is an attack of severe pain and on examination a boggy, very tender mass of varying size localized in the pelvis may be palpated.

When rupture occurs there is a history of severe abdominal pain with faintness and the signs of internal hemorrhage: pallor, feeble pulse (not usually very rapid, however) low blood pressure and cold and clammy skin. The abdomen is slightly distended, very tender, especially on the side of the rupture and there is shifting dullness in the flanks. Vaginal examination shows a diffuse, boggy resistance and marked pelvic tenderness.

When extrauterine pregnancy develops to term there are usually vague pains suggestive of labor, followed by disappearance of fetal heart tones and movements, but nothing further happens. Usually examination, under anesthesia

*A series of short selected articles by members of the Section is being published weekly.
Comments and questions by subscribers are solicited and will be discussed by members of the Section.

if necessary, will show the uterus of small size and distinct from the mass due to the pregnancy. It is not uncommon, however, for the diagnosis to be missed by several consultants before the correct solution of the problem is arrived at.

The treatment of extrauterine pregnancy at any stage is immediate operation. In ruptured ectopic pregnancy, however, with the patient in extreme shock, operation should be deferred until transfusion has been performed or intravenous glucose solution, heat, morphia, etc., have improved the patient's condition sufficiently to stand surgical intervention.

QUARTERLY BULLETIN OF THE BOSTON MEDICAL LIBRARY

JANUARY 1936

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The purpose of this publication is to extend more widely, if possible, the service that the Boston Medical Library is in a position to render the members of the Massachusetts Medical Society particularly, and more broadly, even, the physicians of New England.

LIBRARY SERVICES

1. *Bibliographic.* Looking up references in medical literature from original sources.
2. *Packet Service.* Pamphlets, reprints and monographs covering any medical subject from the accumulations in the Library, loaned upon request.
3. *Photostatic Service.* Photographic reproduction of pictures, the printed page, etc.
4. *Library Extension Service.* Monthly, regional extension books and periodicals.

SERVICES

For the first three of these services and their costs, application should be made to the Director of the Boston Medical Library, 8 Fenway, Boston, Mass. The fourth service may be inaugurated after a survey of the needs of Districts, where such service might be practicable and when plans have been worked out for defraying the costs.

It is the purpose of the Library Committee within the limits of its budget, to purchase the best of medical literature in whatever form it is presented and they will give notice in these Bulletins of such acquisitions. Citations of reviews of significant books, appearing in the columns of The *New England Journal of Medicine* and elsewhere, may serve to draw attention to authoritative information otherwise overlooked.

Physicians visiting in the City are invited to call at the Library where information is available as to what is going on at most of the Clinics, when and where Medical Society meetings are being held, the subjects to be discussed and the speakers.

The Library has for many years sought to encourage an interest among physicians in the History of Medicine and will continue to do so in these Bulletins, and in biographical sketches of noteworthy contributors to medical science, appearing in The *New England Journal of Medicine*, at other times than the regular issues of the Bulletin. During the fall and winter, the Medical History Club holds regular meetings at the Library to which all interested physicians are welcome. To render appropriate recognition of significant events in the history of medicine is one of the purposes of the History Club and the Bulletin will endeavor to call attention to these events and their celebration.

For out-of-town physicians, Members of the Library, having a little free time to while away, 8 Fenway has many interesting things to offer: the Prince Memorial Room in which one may quietly read, a Periodical Room in which are available some hundreds of the world's current medical journals, a very unusual collection of Incunabula and ancient manuscripts of great historical value, as well as numerous items of local antiquarian and historic interest and a very valuable collection of medals not duplicated anywhere else.

RULES GOVERNING THE USE OF THE LIBRARY

Hours: During the months from October to June, inclusive, the Library will be open daily except Saturdays, Sundays and Holidays from 9.30 A.M. to 6 P.M. Saturdays, the Library closes at 5 P.M. From October 16 to May 31, the Library will be open Monday and Wednesday evenings from 6 to 10 o'clock. During July, August and September, the Library will close daily at 5 P.M., except on Saturdays when it will close at 12 Noon.

Most books and periodicals may be borrowed by members for periods varying from three to fourteen days.

MASSACHUSETTS LEGISLATIVE NOTES

S. 69. This bill has been introduced by Senator Miles and is a modification of that submitted last year, and if enacted will relieve doctors and hospitals of the unjust burdens imposed under present conditions.

The text of the bill follows:

SENATE 69

AN ACT PROVIDING SECURITY TO HOSPITALS AND PHYSICIANS IN THE ENFORCEMENT OF REASONABLE CHARGES FOR TREATMENT OF CERTAIN PERSONAL INJURY CASES.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Chapter two hundred and fifty-five of the General Laws is hereby amended by adding at the end, under the heading, Liens Of Hospitals And Physicians, the following six new sections:—

Section 40. Every registered physician, and every person maintaining within the commonwealth a hospital other than one maintained by the commonwealth or a political subdivision thereof, shall have a lien upon any and all rights of action, suits, claims, counterclaims or demands which any person treated by such physician, or admitted to such hospital and receiving treatment, care and/or maintenance therein, on account of personal injuries received by him as the result of the wrongful or negligent act or failure to act of any person, may have, assert and/or claim against such last-named person, such lien to be for all reasonable charges of such physician for medical and/or surgical treatment, or for all reasonable expenses and charges of such hospital, at ward rates, as the case may be, for such treatment, care and/or maintenance of such injured person up to and including the date of payment of damages for such injury; provided, that a written statement containing the name and address of the injured person, if known, the date upon which his injuries were sustained, the name of the physician, or of the hospital or of the person maintaining the same, as the case may be, and his or its location or address, and, if known, the name and address of each person alleged to be liable to pay damages to such injured person for such injuries, shall be filed in the office of the clerk of the courts (in Suffolk county in the office of the clerk of the superior court for civil business) of the county wherein such injuries were sustained, prior to the payment of such damages; and provided, further, that such physician, or such hospital or the person maintaining it, shall immediately upon filing such written statement mail, postage prepaid, a copy of such statement, with a record of the date and place of filing thereof endorsed thereon, to each person so alleged to be liable to pay damages whose name and address are known to the lien claimant. The claim of a registered physician made under authority of this section may be included in, and made a part of, the claim of a hospital hereunder.

Section 41. The reasonable charges for which a lien under the preceding section may be claimed by a registered physician shall not exceed the charges specified for the services performed in the schedule of charges established for the county within which the lien is claimed by the Massachusetts Medical Society, which is hereby authorized forthwith to establish such a schedule for each county within the commonwealth, and shall file promptly a copy thereof, and of all subsequent changes, amendments and additions therein and thereto, in the office of the clerk of the courts (in Suffolk county in the office of the clerk of the superior court for civil business) of the county wherein such schedule is, or is to be, effective. Before any such schedule, or any change, amendment or addition therein or thereto, shall become effective, a public hearing thereon shall be held by a judge of the superior court sitting within and for such county, public notice of the time and place of which hearing shall be given by publishing the same at least thirty days before such date in a newspaper having a general circulation in such county. If, after such hearing, the judge shall be satisfied of the reasonableness and sufficiency of such charges, or of such change, amendment or addition therein or thereto, he shall issue an order to such effect and file the same with the clerk; and thereafter in any proceeding in such county to enforce a lien established under section forty, such schedule may be introduced as evidence of the reasonable value of the services so performed, but in no event shall any lien be enforced for any charge in excess of such schedule.

Section 42. Any lien referred to in section forty shall attach to any verdict, report, decision, decree, award, or final judgment or order made or rendered in any action or proceeding in any court of the commonwealth, or by any board or commission thereof, in any suit, action or other proceeding brought by such injured person, or by his estate in case of his death, against any person for the recovery of damages on account of such injuries, as well as to the proceeds of any settlement of any such suit or of the settlement of any such claim or demand effected by any such injured person with such other person.

Section 43. After the filing of the notice as provided by section forty-one no release of any judgment, claim or demand by such injured person shall be valid or effectual as against such lien, and any person making any payment of damages to such injured person or to his legal representative for injuries sustained, or for death caused by such injuries, shall for one year from the date of such payment remain liable to the lien claimant for the amount of his or its reasonable charges due at the time of such payment to the full extent of the services and expenses to the date of such payment, and any such lien claimant may within such period enforce his or its lien by a suit at law against the person making such payment of damages.

Section 44. The clerk of courts of each county (in Suffolk county the clerk of the superior court for civil business) shall at the expense of his county provide a proper docket, to be called the physician and hospital lien docket, in which, upon the filing of any lien claim under section forty-one, he shall enter the name of the injured person, the date of the accident and the name of the registered physician, or of the hospital or person maintaining the same making the claim. Such clerk shall also prepare and keep up to date a proper index of said docket, and shall be entitled to the following fees:

For filing such claim , and at the rate of cents per folio for each entry made in the lien docket and cents for each search made by him in his office for a lien claim.

Section 45. Any person against whom a claim for compensation for injuries suffered by a person referred to in section forty shall be made may examine the records relative to the treatment, care and/or maintenance of such injured person made or kept by the lien claimant.

Hearing on this bill was held January 21.

MISCELLANY

THE APPOINTMENT OF DR. LINDE

Dr. Joseph I. Linde, clinical professor of pediatrics at the Yale University School of Medicine, has been appointed health officer of New Haven, succeeding Dr. Leonard Greenberg, who recently resigned to become associated with the New York State Department of Labor.

APPOINTMENTS AT THE CARNEY HOSPITAL

At a Meeting of the Advisory Board of Carney Hospital on January 6, 1936, the following appointments were made:

Dr. James P. O'Hare was made Consulting Physician to the Medical Department of Carney Hospital.

Dr. William E. Browne, for many years a member of the Surgical Staff, was appointed Surgeon-in-Chief of the Second Surgical Service of Carney Hospital.

THE DRIVE AGAINST VENEREAL DISEASES

At a meeting in New York City January 15, attended by more than 2,500 representatives of the medical and nursing professions, social workers and public health officials, the problem of venereal diseases was discussed with a view to designing an efficient program for the management of this great burden on the human race.

Dr. Alfred Potter, Director of Dermatology and Syphilis at the Kings County Hospital, estimated that the number of cases of syphilis in the United States is 10,000,000 with 400,000 new cases developing yearly, and an annual mortality of 26,000. Comparing syphilis with other communicable diseases he cited 35,000 more reported cases of syphilis than scarlet fever, 79,000 more cases than all forms of tuberculosis, 500,000 more cases than of diphtheria and many more than those reported of typhoid fever.

Other speakers gave statistical evidence of the new cases reported substantiating these figures.

The consensus expressed by the speakers is that the remedy consists in bringing the facts out into the open. The therapy applicable to the treatment of syphilis and gonorrhea is available but the "conspiracy of silence" is thwarting the efforts of the medical profession, social hygiene programs and health departments.

The solution of the problem lies in general understanding of conditions and a determined and coördinate movement to prevent venereal diseases.

ANTI-VACCINATION ACTIVITY

Members of a citizens' committee opposed to the present compulsory vaccination law held a meeting recently in Boston for the purpose or organizing a movement to secure the repeal of the mandatory provision for the vaccination of public school pupils.

The proposed plan is to organize groups in various sections of the state for the development of a concerted movement to influence the Legislature to repeal the existing law. With the remarkable record of the value of vaccination in preventing smallpox, any interference with the general use of this prophylactic practice would be unfortunate.

Doctors should antagonize this movement by a campaign to educate the people as to the importance of vaccination.

SERVICE RENDERED BY NEW YORK HOSPITALS

Dr. S. S. Goldwater, Commissioner of Hospitals, New York City, is quoted in the daily papers as having said in his report for 1935 that "at least half the population of New York City depends on the city hospitals for medical care and ambulance service." This demand, Dr. Goldwater explains, will necessitate the creation of new municipal hospitals in order to give that quality of service now provided in private institutions in that city. In specific details he sets forth the necessity of reducing overcrowding, tripling facilities for out-patient service, laboratory extensions, larger nursing staffs, the further development of scientific research, control of clinical appointments, modernizing therapeutic equipment, closer relations with medical schools, better instruction for internes and provision for convalescents.

The beds under the Commissioner's charge number 18,986 and cover long-term and short-term uses, chronic diseases, communicable and mental illnesses.

Referring to alcoholic cases the statement is made that there seems to be a substantial increase since prohibition, although in general there has been a decrease since 1916. The total days' care was 6,544,472 and the average stay was 25.1 days which is two days less than in 1934.

The problems under Dr. Goldwater will interest those who hold responsible positions in maintaining these institutions.

In addition to the municipal service, private hospitals of New York City accommodate about 440,000 bed patients and 1,500,000 out-patients yearly. These figures show to some extent the importance of medicine in the social scheme.

The relation of medical practice in general to hospitals is being studied throughout the country. This great service to the victims of disease has an important bearing on the economics of medical practice within and outside hospital walls.

PSYCHIATRIC SERVICE AT MICHAEL REESE HOSPITAL

On January 1, 1936 a Psychiatric Service in the Department of Nervous and Mental Diseases was organized at the Michael Reese Hospital, Chicago, Illinois.

This service will be headed by Dr. Jacob Kasanin, formerly the clinical director of the Rhode Island State Hospital of Mental Diseases, and lecturer in Psychiatry at Brown University and Smith College School of Social Work. Previously Dr. Kasanin was connected with the Boston Psychopathic Hospital, Boston, Mass., where he was the Senior Research Associate in connection with the research investigating the Social Causes for Mental Diseases under the auspices of the Rockefeller Foundation.

The Psychiatric Service at Michael Reese Hospital will have an out-patient department as well as a small number of beds in the hospital, and also in the Sarah Morris Children's Memorial.

NEW YORK STATE CAMPAIGN TO CONTROL PNEUMONIA

Reduced mortality from pneumonia may be expected if plans of the Medical Society of the State of New York are successful.

In a statement issued by Dr. Thomas P. Farmer, of Syracuse, chairman of the Public Health and Medical Education Committee of the Society, the campaign will be a joint project of the medical Society of the State of New York, the New York State Department of Health, the State Association of Public Health Laboratories, the Metropolitan Life Insurance Company, and the Commonwealth Fund.

The development of the work is in direct charge of Dr. Russell L. Cecil of New York City, chairman of the pneumonia subcommittee.

A PHYSICIAN'S FEE

In the following letter of Surgeon General Cumming to the Secretary of the Massachusetts Medical Society, the information is set forth that reports of illness requested of physicians to amplify facts found in the Chronic Disease Survey will be paid for at the rate of twenty-five cents.

Mirabile Dictu! Twenty-five cents for time consumed in the examination of records and recording facts. Even with this the likelihood of requests for more details. Official correspondence is about as voluminous as a department or bureau is able to make it.

Here is another opportunity for the long suffering doctor to serve his country with niggardly recognition by the government.

COÖPERATION OF THE MEDICAL PROFESSION AND THE PUBLIC HEALTH SERVICE

Treasury Department
Public Health Service
Washington

December 28, 1935.

Dr. Alexander S. Begg,
Secretary, Massachusetts Medical Society,

Dear Dr. Begg:

With further reference to my letter of October 15, 1935, it has seemed to me that your State and local medical societies may be somewhat in doubt as to the kind of coöperation which is needed on the Chronic Disease Survey between the Public Health Service and the medical profession.

Our regional, State and city supervisors have been told to get in touch with the various medical societies in their districts. I believe that in many instances this has been done, but I am afraid that the explanations which have been made have not been sufficiently clear and that after the first contact the medical societies are wondering why the matter seems to be dropped, especially when they read in the newspapers and hear over the radio that the survey is actually being carried on.

The principal reason for the first contact was to let the medical society know that the survey was about to start. The coöperative action between the Service and the Society will come at a later time.

The survey itself, as you know, is purely the collection of factual data from families. We have been very careful in the preliminary part of the survey to avoid having the lay enumerator collect medical information. The enumerator simply asks the householder what diseases have occurred in her household and records the exact words of the informant. Many such schedules will record no illness. For those that record an illness it is planned to obtain further data from the physician who treated the case. The exact method of obtaining this information has not been completely worked out. Methods are now being tested to determine which are most satisfactory. Before being applied in any area the method will be presented to the official committee of the medical society for judgment and action. Whatever the details of the method used, we can say that the request for information will be mailed to the physician direct from the Surgeon General and be returned by mail to the Surgeon General where it will be treated as strictly confidential, used only for statistical analysis, and will

not be returned to the local office, thus complying with the ethical standards of the medical profession. No requests for such information will go out for a month or two when a considerable part of the canvass will have been completed.

A sum has been set aside from which to pay twenty-five cents for the filling out of each medical schedule.

Regional or State supervisors will visit the Secretary of the State and County Medical Society and request that the local societies designate committees to act in an advisory capacity to State and local supervisors.

Very truly yours,
H. S. CUMMING,
Surgeon General.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1934 AND 1935 AND SEVEN YEAR AVERAGE

MONTH ENDING JANUARY 4, 1936

Diseases	Week ending Dec. 14, 1935	Week ending Dec. 21, 1935	Week ending Dec. 28, 1935	Week ending Jan. 4, 1936	Average cases reported for week corresponding to Jan. 4 for past seven years	Week ending Dec. 15, 1934	Week ending Dec. 22, 1934	Week ending Dec. 29, 1934	Week ending Jan. 5, 1935
Actinomycosis	—	—	—	—	—	—	—	—	1
Chickenpox	277	145	70	100	134	216	183	122	149
Conjunctivitis Infectious	—	—	—	—	2	—	—	—	—
Diphtheria	5	7	1	1	16	1	2	1	4
Dysentery Bacillary	—	—	—	—	—	1	—	—	3
Encephalitis Epidemic	1	—	—	1	—	—	—	1	—
German Measles	52	65	53	52	8	5	5	2	8
Influenza	5	7	6	31	131	6	8	81	236
Measles	134	76	48	93	127	314	316	278	433
Meningococcus Meningitis	—	2	—	2	—	1	—	—	1
Mumps	53	83	69	97	61	41	33	29	32
Paratyphoid Fever	2	—	—	2	—	—	—	—	—
Pneumonia (Broncho)	26	28	26	46	41	22	20	36	33
Pneumonia (Lobar)	46	51	41	76	55	21	33	41	63
Poliomyelitis	1	—	1	—	—	—	—	—	1
Scarlet Fever	59	40	50	40	69	39	39	46	51
Smallpox	—	—	—	—	2	—	—	—	—
Streptococcus Sore Throat	1	1	3	1	4	2	5	4	3
Tetanus	—	2	—	—	—	—	—	1	—
Trachoma	—	—	—	—	—	—	2	—	—
Trichinosis	—	1	—	—	—	—	—	—	—
Tuberculosis (Pul.)	25	21	8	15	28	25	15	17	13
Tuberculosis (O. F.)	3	2	1	1	2	2	—	—	—
Typhoid Fever	2	1	—	2	—	1	—	1	1
Undulant Fever	1	3	—	1	—	—	—	1	—
Whooping Cough	141	94	67	48	52	65	72	45	73
Gonorrhea	13	30	31	31	29	45	18	31	31
Syphilis	36	44	46	53	33	45	44	33	55

Remarks: No cases of Asiatic cholera, glanders, plague or yellow fever during the past seven years.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

DIVISION OF ADULT HYGIENE

Number 30 *Cancer Clinic Bulletin* January 1, 1936

The following will appear in a pamphlet issued for general distribution in the near future. A copy of this pamphlet may be obtained by writing the Department:

THE MASSACHUSETTS CANCER PROGRAM

The Cancer Program of the Department of Public Health of Massachusetts was inaugurated in 1926 by legislative enactment. According to law, there are four major activities—first, statistical research

for the evaluation of the problem; secondly, clinics whereby group diagnosis is made available to every individual in the State; thirdly, the Pondville Hospital wherein it is possible to adapt the best-known methods in diagnosis and treatment of cancer to the needs of the State; and fourthly, education for the dissemination of exact information concerning cancer for every individual in the State with the hope of eventually sublimating the current groundless fears and phobias.

STATISTICAL STUDIES

The studies have covered the volume of the problem; the existing hospital facilities in the State including the availability of radium and x-ray; the medical, social, and economic aspects of the disease; as well as such etiological findings as would be obtained by statistical analysis of death records, hospital records, and home visits to cancer patients. This work is continuing and reports are made on new evidence as it is acquired.

CLINICS

The State-aided cancer clinics are administered by committees appointed by the local medical organizations. These committees have charge of the administrative details connected with their respective clinics but in all cases they must conform with the minimum standards set by the Department. These are as follows:

(a) Group diagnosis. The group must consist of at least three men, preferably surgeon, pathologist, and radiologist. When any of these are not available other physicians may be substituted.

(b) Uniform records. Forms are furnished by the Department for this purpose as is also money for clerical service when needed.

(c) Social service. All cases of cancer and precancer are referred to social service for follow-up. The follow-up continues until death in the case of cancer and until removal of the lesion in the case of precancer. The State either furnishes money to help defray the expenses of the social worker or furnishes the clinic the services of a part-time social worker.

Every physician in the Commonwealth may bring or send his patient to the clinic for free consultative service with the group. If the individual case requires such diagnostic procedure as gastro-intestinal series, this must be paid for by the patient if he is able to do so. If he is not able to do so, funds are available for this service.

Each case is returned to the physician who sent him to the clinic, and this physician decides whether he desires the assistance of social service in securing treatment for his patient.

The clinics must meet at least twice a month. At intervals determined by the clinic committee, but in no instance less than once a year, some form of teaching for the physician in the community is required. Some clinics perform this service by having consultants come to the clinics at stated intervals; others have adopted the plan of having all the physicians in the community serve on the clinic staff; while still others confine their activities to having an address on cancer by some surgeon from another city.

The clinic itself is furnished the following services by the State: first, advice, information, and literature; secondly, funds for or services of social workers; thirdly, funds for travel of social worker; fourthly, funds for x-ray diagnosis for those unable to pay; fifthly, funds for teaching clinics; sixthly; funds for clerical assistance in clinics; seventhly, funds for postage, telephone, stationery, etc.; eighthly, special clinics for the staffs of the clinics; and ninthly, reference of cancer cases to Pondville through social service.

The purpose of the clinics is to furnish physicians and the public, group consultation service in cancer, as well as to improve the knowledge of cancer among the medical profession and the laity. The group furnishes a diagnosis and outlines a plan of treatment for any person suspected of having cancer, regardless of financial status. Every effort is made to have the family physician either come with his patient to the clinic or send the patient with such information as he cares to furnish. Any individual is admitted to the clinic although it is preferred to have the patients referred by physicians so that any tendency to use the cancer clinic in order to establish a diagnosis of a condition originally not suspected of being cancer may be eliminated.

PONDVILLE HOSPITAL

The Pondville Hospital, with a bed capacity of 140, cares for any patient with cancer or suspected cancer of all types and stages provided that the patient has lived in Massachusetts for two out of the preceding three years and is certified for admission by a practicing physician.

The charges for individuals able to pay are $10.50 per week. All others are hospitalized at no expense to themselves. Hospital charges to cities and towns for patients unable to pay their own fees are $2.50 per day. No additional charge is made for service or treatment. Diagnostic services are free in the out-patient clinic, while the charge for treatment is $1.50.

Diagnostic, surgical, therapeutic, radium, x-ray (diagnosis and treatment), medical, and nursing services are available. An out-patient clinic for diagnosis and treatment is held on Thursday afternoons for new patients at 1 P.M. and old patients at 2 P.M.

The Pondville Hospital is located in the township of Norfolk, between Walpole and Wrentham, on the Boston-Providence turnpike, U. S. Route No. 1A. The hospital can be reached by the New England Transportation Company buses which leave from Park Square, Boston. Patients may be visited from 2-4 and 7-8 P.M. every day.

Application blanks must be filled out by a registered physician and sent to Pondville Hospital. The applicant will be notified when he may be admitted.

Physicians are requested to send letters with their patients.

Application blanks may be obtained from the Hospital, post office address Wrentham, Massachusetts, telephone Walpole 386; at 546 State House, Boston; from local overseers of the poor; or local boards of health. When practicable, a member of the Department staff will visit each case before admission.

EDUCATION

In order to carry out our instructions to disseminate knowledge to every individual in the State a Coöperative Cancer Control Committee is either established or is in the process of being established in every one of the more than 350 communities. This committee is composed of a small central group or steering committee, and a larger group contacted directly by the central committee, and finally, every individual in the community. The steering committee is composed of key people who have friendly and vital contacts with every type of group and individual represented in the community —religious, political, labor, foreign, social, fraternal, patriotic, and service. The members of this steering committee contact representatives of every club in the community. These clubs promise to have at least one meeting a year on cancer. A club does not have to have an impressive membership to become corporate in this plan. The small group of eight or twelve is an ideal size. The group, itself, determines the type of cancer talk it will have. Some groups prefer a formal talk followed by a question period while others prefer the round-table discussion with the physician during which questions are asked. In any case a question period is desirable. It is at these small group conferences where an individual feels free to ask the questions about cancer where the real basic educational work is done.

The local physician is the one who is asked to be the teacher in this program because the decline or increase in early detection of cancer is entirely in his hands, because he will obtain more coöperation from his community if he knows exactly what to do in case of early symptoms and what the early symptoms are, because the local physician knows his community, and because it has always been the natural prerogative of the physician to teach.

STATE-AIDED CANCER CLINICS IN MASSACHUSETTS

Boston—Beth Israel Hospital, Tuesday and Thursday, 9 A.M.

Boston—Boston Dispensary, 25 Bennet Street, Tuesday and Friday, 9:30 A.M.

Brockton—Brockton Hospital, Thursday, 10:30 A.M.

Fitchburg—Burbank Hospital, Alternate Tuesdays, 9:30 A.M.

Gardner—Henry Heywood Memorial Hospital, 2nd and 4th Fridays, 9 A.M.

Gloucester—Addison Gilbert Hospital, 1st and 3rd Wednesdays, 9 A.M.

Greenfield—Franklin County Hospital, 1st and 3rd Fridays, 10 A.M.

Lawrence—Lawrence General Hospital, 1st and 3rd Tuesdays, 10 A.M.

Lowell—Lowell General Hospital, Friday, 10 A.M.

Lynn—Lynn Hospital, Friday, 10 A.M.

New Bedford—St. Luke's Hospital, Wednesday, 2 P.M.

Newburyport—Anna Jaques Hospital, 2nd and 4th Mondays, 10:30 A.M.

North Adams—North Adams Hospital, 2nd and 4th Wednesdays, 4 P.M.

Northampton—Cooley Dickinson Hospital—1st and 3rd Thursdays, 10 A.M.

Pittsfield—St. Luke's Hospital, 2nd and 4th Thursdays, 4 P.M.

Springfield—Springfield Hospital, Friday, 4 P.M.

Worcester—Memorial Hospital, Wednesday, 11 A.M.

Pondville Hospital (Post Office, Wrentham)—Thursday, 1 P.M.

THE NEW OPERATING ROOM OF THE MASSACHUSETTS MEMORIAL HOSPITALS

The formal opening of the operating floor in the new wing of the Massachusetts Memorial Hospitals, Harrison Avenue and Stoughton Street, was initiated with a series of four operations performed by distinguished surgeons who are prominently connected with the Hospitals and the Boston University School of Medicine.

According to the announcement of the Hospitals' superintendent, Dr. Henry M. Pollock, three former chiefs of the surgical service participated in programs, Dr. J. Emmons Briggs, and Dr. Charles T. Howard, both professors emeriti of surgery in Boston University's school of medicine, and Dr. Ralph C. Wiggin, who is chief of the genito-urinary surgery department of the school.

Dr. Howard M. Clute, who was recently appointed chief of the Hospitals' surgical service and professor of surgery at Boston University, was included in the group. There are four regular operating rooms, another for orthopedic work, and a sixth for obstetrical cases.

Unique among modern hospitals, the recently completed new wing at the Massachusetts Memorial Hospitals, incorporates in its plans, many novel and essentially scientific devices. Members of the Hospitals' board of trustees and other distinguished guests who had been invited on the necessarily limited list observed the operations from a balcony above the operating room proper. Benches which have flat desks before them are provided for the purpose of making notes. Guests gazed through glass partitions at the operating scene below. Shut out from the operating room itself, so that no contaminating germs may drift into the sterilized area, and no bothersome visitors will be in the way of the work at hand, the observers can listen to the voice of the surgeon explaining as he proceeds with the operation. A loud speaker-microphone system will make these explana-

tions more audible than if the listener were posted beside the physician.

Remembering that these balconies above the operating rooms have been designed primarily for the education of medical students, Dr. Pollock had built into the walls, a tube connecting balcony and operating room. The inquiring student with a question will write it out on a piece of paper, put it in the carrier, slip it into the tube; an attendant will see it below and read it to the operating surgeon, who in turn, will answer for the benefit, not only of the one student with whom the question originated, but for all the spectators.

Constant temperature chambers for solutions and the warming of blankets simplify this ever-present problem. In the large preparation room, arrangements for the making and putting up of dressings mean that only the workers in these rooms are in contact with the materials. As soon as the dressings are ready, they are put on shelves or racks and pushed into a wall container which is opened from the hall side. Thus they are not touched by other than the sterile hands which prepared them. Nor are these workers on the dressings in contact with the world outside of their own rooms, as no one is allowed inside.

The operating rooms are equipped with the most modern lighting systems. Giving the effect of daylight, the high-powered lamp provides at all times a shadowless blaze of illumination. It is adjustable in all directions. Thus from whatever angle the surgeon may be compelled to work, the light is always clear, strong, and he is never in his own shadow. The operating floor is air conditioned as to temperature and humidity. The electric switches and other fixtures are all protected to prevent sparking with resultant explosions. A double supply of electrical power to all fixtures has been arranged. Thus, in case of the failure of power on the regular lines, without a winking of the lights even, the other power will come on, and the operating may continue uninterrupted. Apparatus is installed so that each room has air pressure and suction. By the arrangement of elevators in the new wing, the patient will be moved directly from there to the operating room, not having to be transported through any part of any corridor in the building.

A lounge room, comfortably appointed for the surgeons, will be a popular place with the staff, and a waiting room for the medical students will be the latters' headquarters when off duty. A lighted number, flashing on in a glass panel on the wall, will indicate to the waiting students which operating rooms they are expected to attend.

CONNECTICUT NEWS ITEMS

At the Annual Meeting of the Voting Staff of the Hartford Hospital held December 4, 1935, Dr. E. R. Lampson and Dr. H. G. Jarvis were reëlected President and Vice-President, respectively for the ensuing year and Dr. James R. Miller was elected secretary.

The Hartford Medical Society held its annual meeting on January 6, 1936. The following members were elected to office:

Edward A. Deming, President.
Henry F. Stoll, Vice-President.
J. Tyree Woodson, Secretary.
Louis P. Hastings, Assistant Secretary.
Franklin L. Lawton, Treasurer.
Walter R. Steiner, Librarian.
Ernest Caulfield, Assistant Librarian.
C. Brewster Brainard, Alfred M. Rowley, E. Terry Smith, Trustees for one year.
Stanley B. Weld, Executive Committee for 3 years.

Public Health in Hartford

Hartford, Connecticut, with its population of 164,072 has as yet no regularly appointed health officer, the position being filled until April 1 by Dr. Thomas F. O'Brien, acting health officer. The health program of this city as it exists today is considered by many as entirely inadequate. In a radio broadcast on January 7 Dr. C. Brewster Brainard, chairman of the joint committee of the Council of Social Agencies and the Hartford Chamber of Commerce, urged that there be appointed a city health officer who would be the administrator of the Department of Health, not subordinate to a Board of Health "composed of citizens none of whom have been trained in public health work". Dr. Brainard briefly referred to the Health Conservation contests sponsored by the Chamber of Commerce of the United States and the American Public Health Association and inaugurated in 1929. In 1934, 214 cities took part, representing over 33 million people. There were 29 cities in Hartford's population class of 100,000 to 250,000. Hartford has competed each year, beginning in 1930, and never ranked lower than fourth. In 1933 it was the winning city.

In spite of its high rating Dr. Brainard emphasized the point that Hartford should make a better showing in the reduction of its infant mortality record, its house visits to school children, and in the hospitalization of incipient cases of tuberculosis. Educational work relative to the prevention of cancer, heart disease, and communicable diseases is very inadequate. He quoted Dr. Ira V. Hiscock, professor of public health at Yale, who made an exhaustive study of Hartford's health guidance agencies and problems, to the effect that there is lacking a coördinated, comprehensive public health education program in this city. This program might include more information concerning the importance of early diagnosis and prompt treatment of cancer, the significance of measles and whooping cough, the need for periodic medical check-up of convalescents, the prevention and care of heart disease, the problems of social hygiene, the value of a well-rounded community health program and the importance of a trained personnel. Much of the credit for the public health program in Hartford has been due, not

to the Board of Health, but to nonofficial agencies as the Hartford Tuberculosis and Public Health Society, the Visiting Nurse Association, and the Hartford Dispensary.

It is a striking fact that in 1934 less than one per cent of the city budget was devoted to the Department of Health. The total expenditure for public health activities for that year amounted to $2.20 per capita, but of this the city paid less than one-fourth, while the greater part was contributed by private agencies. Hartford's program of public health lacks many things, yet it is spending $2.20 per capita, which is well within the range of $2.00 to $2.50 estimated as all that is required to purchase a complete public health program.

Hartford needs a trained personnel to carry on its public health work. This means a city health department "under the direction of a health officer who is a physician especially equipped by training and experience for administrative health work and who should at least meet the requirements set up by the Conference of State and Territorial Health Officers. He should be the actual administrator of his department of the city government and not subordinate to a group called the Board of Health that is and always has been since the city was incorporated composed of citizens none of whom have been trained in public health work. The health officer should select his trained medical assistants, public health nurses, sanitary officers and clerks and should be secure against political interference or dismissal during competent performance."

All this will necessitate a change in the city charter, the same as has been done in several Connecticut cities.

CORRESPONDENCE

A DISCUSSION OF DR. DONALD S. KING'S CRITICISM

December 30, 1935

Editor, *New England Journal of Medicine*,

I have read with interest and appreciation the excellent criticism by Dr. Donald S. King, in the current issue of the *Journal*, of the paper "Diathermy in Lobar Pneumonia" by Drs. Resnik, Foley, and myself, which appeared in the *Journal* of October 24, 1935, on page 796.

On my own behalf, as well as that of my colleagues, I should like to make some reply, especially in view of the fact that Dr. King's letter may be read by some who did not read our paper.

In regard to Dr. King's Point 1 (dealing with pneumococcus antiserum): We wrote "we do not imply that serum, for instance, has no value; even in our present small series of cases several patients seemed to improve markedly after receiving it; the fact remains, however, that in any large series of cases, the mortality is about what it was before serum was used". If we had written "in any large series, *of unselected type*, etc.", which we considered would be assumed from the context, our meaning might have been clearer. We were not attempting to evaluate serum therapy, but to point out that the mortality of pneumonia, all types considered, has changed but little during the past generation.

Point 2 (dealing with the debatable question as to whether or not the lung is heated by diathermy) I am referring to Dr. Resnik, the physiotherapist of the group, for anything he may care to say on the subject, or on any other subject in connection with Dr. King's letter.

With Point 3A we are in complete accord.

Point 3B brings up the question as to our method of selecting patients for each group. As in most hospital services, we had to take patients as they came in, and they did so at very irregular intervals. In addition, and as explained in our paper, there were admissions just before week ends and holidays, and at other times when the giving of diathermy would have had to be delayed or interrupted; these patients, therefore, were placed in the control group; other upsets occurred when patients were moribund on admission, also as mentioned in our paper. The discrepancy in the dates does exist; nevertheless, our series were composed as nearly as possible of alternate cases, and it was due to mechanical difficulties rather than to any "selection" for other reasons that they were not entirely so. The "selection" thus is more apparent than real, and although as Dr. King points out, it does cause the time element to enter into it, we felt that this was the fairest method we could use under the circumstances.

Points 3C and 3D are likewise perfectly fair in their criticism. We can only say that, as described under "Selection of Patients" in the paper, no factors such as age, condition, type of organism, and the like were taken into consideration, and that the attempt was made to select as nearly as possible one of alternate cases.

We agree with Dr. King that there is need for a larger series of cases before coming to any definite conclusions in regard to the use of diathermy; that, in fact, was stated several times in the paper. Thus, "From our present series it is hardly possible to draw any definite conclusions. The number of cases is so small that statistics especially must be regarded with suspicion, and we feel that our results are suggestive rather than conclusive . . . we feel justified in continuing with this form of treatment until a sufficiently large series of cases, with controls, has been accumulated, and more definite conclusions may be drawn. . . . It (diathermy) appears to lower the mortality, although the present series of cases is too small to permit drawing any definite conclusions in this respect." Our article was a preliminary report, and so subtitled.

Finally we wish to thank Dr. King for his letter of excellent and just criticism. It was one of our hopes in writing the paper that it might arouse comment and discussion, and such constructive crit-

icism is most welcome. We are writing this reply not in any attempt to refute any of Dr. King's statements, but to clarify matters for any who may have read his letter, and not our paper, and who may be interested in the subject.

Sincerely yours,

WINTHROP WETHERBEE, JR., M.D.
Boston City Hospital,
Boston, Mass.

UNPAID BILLS OF DOCTORS AND HOSPITALS

Editor, *New England Journal of Medicine*,

The old Chronic Disease of Neglecting and Refusing to pay physicians and hospitals for services rendered in accident cases, and for which the bills of physicians and hospitals were taken care of in the settlements by the insurance companies, has again reached an acute condition.

The Norfolk District committee arranged for personal conferences, recently, with the director of the insurance companies in Boston, to ascertain the attitude of these companies toward House Bill 1109, introduced by H. M. Landesman, M.D., last year. This Bill was recommended to Massachusetts by Dr. William C. Woodward, Legal Adviser of the American Medical Association, and was based on the now existing Lien law in Nebraska, which is apparently working out successfully. This petition, with modifications to eliminate honest and serious objections by the insurance companies and yet to protect physicians and hospitals, has been again introduced.

The directors of the insurance companies were all agreed that an injustice was being perpetrated upon the physicians and hospitals in certain cases, which almost bordered on larceny by some lawyers and patients, and were very agreeable to the suggestion of the medical committee member to get together at a friendly conference to see whether some gentleman's agreement could be worked out to protect the physicians and hospitals and aid them as far as possible in collecting for services rendered.

Friday, January 10, 1936, was the day set for this conference. The following were invited:

Mr. P. W. Linscott, Employers' Liability Assurance Corp., Ltd.; Mr. James Holland, Liberty Mutual Insurance Company; Mr. Martin L. Hines, Travelers Insurance Company; Mr. Arthur V. Sullivan, Great American Indemnity Insurance Company; Mr. Benjamin Brooks, American Mutual Liability Insurance Company; Mr. John W. Cronin, Counsel for the Liberty Mutual Insurance Company; Mr. R. J. Dunn, Lumbermens Mutual Casualty Company; Mr. John W. Downs, Counsel, from the Insurance section; Dr. Joseph B. Howland, Supt., Peter Bent Brigham Hospital; Dr. Nathaniel W. Faxon, Supt., Massachusetts General Hospital; Dr. Henry M. Pollock, Supt., Massachusetts Memorial Hospitals; Dr. Charles F. Wilinsky, Supt., Beth Israel Hospital, from the Hospital group; Dr. Charles E. Mongan, President, Massachusetts Medical Society; Dr. A. S. Begg, Secretary, Massachusetts Medical Society; Dr. Channing Frothingham, Suffolk District Medical Society; Dr. David C. Dow, Sr., Middlesex South District Medical Society, and Dr. Henry M. Landesman, Norfolk District Medical Society, comprising the Medical group.

The chairman made the following introductory remarks:

Gentlemen:

We have come here today for the purpose of bringing about a more amicable association. There has existed an inharmonious and a distrustful feeling among us, for no good reason, for we come in close contact with each other in our daily professional life. It is absolutely necessary that our business intercourse should be carried on in an honorable and friendly way, for we all suffer otherwise.

You are all aware of the fact that physicians and hospitals lose tremendous sums of money annually in accident work. The sad and grievous part of the story is that moneys have been set aside by your insurance companies to pay for the medical and surgical services rendered, but these moneys too frequently are not distributed to physicians and hospitals due to some dishonest patient or lawyer. This practice is becoming worse, and must be halted either by legal methods or healthy and friendly relations between insurance companies, and physicians and hospitals. The latter procedure may be the wiser.

It is not necessary to burden you and take up time to cite a series of cases in which substantial settlements were made and yet physician and hospital were not paid for their services of the highest type and efficiency. Perhaps a few cases may better be cited:

1. Aeroplane accident — patient injured almost beyond likelihood of recovery. Treated by a Boston surgeon. An unlooked for excellent result was obtained. Patient got well, case was settled without a lawyer for a very large sum. Patient was to pay physician, but disappeared after cashing the check.

2. Automobile accident — Mrs. M. C. — patient struck by car traveling 40 miles per hour. Case was settled for $2500, lawyer accepted $1000. Patient received $1500 and was to pay her medical expenses; she refused to pay and suit was brought. Judgment rendered by court for $110, full amount of bill. Patient again refused to pay judgment, patient brought before Poor Debtors' court. Patient appeared in old clothes and told judge that those were her only earthly possessions. He let her go.

3. Patient, A. K., injured in automobile accident, in hospital a month. Case was settled a few months later for $400. This fact was found out about six months later. Lawyer took $260 and patient was told that the lawyer would pay the hospital and physician. A release shown by the lawyer read that the patient received $260 (this the patient denied and made affidavit), and was to pay medical and hospital bills. Bar Association claimed that it could do nothing about it.

Hundreds of such cases could be presented here, it would take time so we will dispense with them. You can prevent the above; are you willing?

The chairman then presented what he thought and knew from his experience and study of all sides of the question, a pamphlet containing the requests by insurance companies and requests by the physicians and hospitals:

REQUESTS BY INSURANCE COMPANIES: (A)

1. That physician and/or hospital notify insurance companies early of accident case under treatment.
2. That honest diagnosis be given to investigator, and probable prognosis.
3. That early arrangement be made for company examination of patient.
4. That reasonable bills be rendered for services.
5. That physicians and/or hospitals discourage and refuse to accept fake cases.
6. That physicians and/or hospitals refuse to deal with ambulance chasers.
7. That physicians and/or hospitals should reply promptly on notification of prospective settlement by insurance company and answer to questions of procedure physicians and/or hospitals wish to take in cases of doubtful or no liability.

REQUESTS BY PHYSICIANS AND HOSPITALS: (B)

1. That check or draft be mailed to physician and/or hospital on same day as patient receives his draft in cases of substantial settlement.
2. That in cases where liability is doubtful but insurance company is willing to offer some sum for settlement, if, after deduction of lawyer's fee and bills of physician and/or hospital, nothing remains for patient, physician and/or hospital should be seen by patient and a definite agreement be brought about, and company notified by patient, physician and/or hospital on the final agreement.
3. That in case disagreement between physician and/or hospital takes place with patient, settlement need not be held up, case may be settled, but above allowed time to attach amount, if so desired.
4. That in case where there is no liability and insurance company wishes to rid itself of same by offering a pest amount, insurance company should notify physician and/or hospital that such are the circumstances.

The meeting was opened for discussion.

Dr. Howland discussed the New Jersey bill of five years ago and said that he was instrumental in its introduction. He said that it went to a third hearing but was finally defeated.

Dr. Pollock inquired whether the objection by the insurance companies of the constitutionality of the bill was correct. The chairman replied that according to the Legal Adviser, Dr. Woodward, of the American Medical Association, the bill was constitutional.

Mr. Downs claimed that the insurance companies, as far as he knew, never doubted the constitutionality of the bill, and said he did not see how we could get anywhere because the physicians and hospitals would get special preferences by their liens even ahead of the injured man and the lawyer. For instance, in Section 1 of B, the insurance companies cannot agree in all cases to mail checks or drafts to physicians when cases are settled. They cannot quite agree to Section 2, under B, and in Section 3, insurance companies can sometimes settle a case in a day or two after an accident so they cannot agree to that, but he did feel that perhaps something can be done. Mr. Downs continued, that whenever he is counsel for an injured person he always tries to send checks to physicians and hospitals directly. Of course he cannot do that in every case.

Mr. Linscott said that they tried to take care of physicians and hospitals at all times possible, and he felt that some plan could be worked out to cover the abuses.

Dr. Baker of the Massachusetts General Hospital said in part that emergency cases were sent to the ward after treatment, and then at the request of the patient, he would be moved to a semi-private room.

Mr. Hines was of the opinion that there was an injustice done to physicians and hospitals at the expense of the insurance companies who were really not to blame, and he, too, felt that a remedy could be prepared to eliminate the loss to physicians and hospitals.

Mr. Cronin felt that something could be accomplished. The case is not only a medical pay problem but involves a great deal more. The lien law refers to cases where "it is solely by fault of the other party." Many cases are settled to avoid suit where the other party is not to blame. Then again let us see the effect of the lien on another type of case. In this case, lawyer brought suit for $2000: insurance company felt that it was willing to pay $800 in settlement including all expenses. There were bills of physicians and hospital for $500. The patient was willing to take $800 if the insurance company paid the hospital and medical bills. Without a lien law, the insurance company could settle the above case, but with a lien law, it would cost the insurance company at least $1300 out of court. This would be a handicap to insurance companies. After discussing this matter in his office with Dr. Landesman, at length, he feels that the insurance companies and the physicians and hospitals can get together on some agreement to eliminate the abuses. He cited another case of an injury to a woman's shin to show how inconsistent and ridiculous some patients can be. This woman was hit on the shin, and because she could not go away to the beach that summer, she spent $70 for awnings for the house. She and her husband were trying to save every dollar they could to invest in stocks. Their investments brought them about 700 per cent. She also had an old colitis of many years back and this flared up again. Now she felt that the insurance company should pay her for all those conditions. Of course, this sounds ridiculous, but it is fact.

Mr. Cronin suggested the following plan which

could be of use: That when a physician begins to treat a patient, if he has the patient make out an affidavit to insurance company and attorney which authorizes them to pay physician and hospital when settlement takes place, the insurance company could probably do so. He also said that the Liberty Mutual Insurance Company has always tried to take care of physicians whenever possible.

Mr. Sullivan mentioned a case that the lien law might have prevented settling. Patient was badly injured and the medical and surgical bills amounted to about $1700; case was settled for $2500. He asked the chairman how he felt about this case, and Dr. Landesman replied that physicians and hospitals have always been very decent and not money-mad, and in a case like that if the patient was crippled, they would reduce their bills to help the patient. Mr. Sullivan felt that the case could not have been settled if there was a lien law, and said there were many other cases in which the bills of physicians and hospitals would actually prevent early settlement of cases.

Mr. Ring of the Lumbermens Mutual Insurance Company said that this company always tries to take care of physicians and hospitals whenever possible.

Mr. Britten of the American Mutual Liability Insurance Company felt that Mr. Cronin had covered the subject quite thoroughly, and there wasn't much more he could say, except that he also felt that some definite, workable plan could be adopted.

Dr. Mongan said that he was at the conference in the capacity of a general practitioner, and would not discuss the lien bill. The doctors hope to work out something worth while, any workable plan is worth while.

Mr. Downs then asked whether Dr. Miles' bill would also be withdrawn in case of an agreement upon a plan. The chairman advised Mr. Downs that as soon as an agreement could be arranged, he would withdraw his bill, and since the hospitals and physicians were satisfied with the plan adopted, Dr. Miles would likewise withdraw his bill.

Dr. Pollock said that the present system is very unfair to hospitals and physicians, that a committee of three should be appointed to formulate some definite plan, and physicians, hospitals, and insurance companies be represented.

The chairman felt that three men would not be sufficient to cover the situation, for there were three types of insurance companies, mutual groups, bureau groups, and non-bureau groups. The chairman asked the insurance company members whether it would not be advisable to have each of these groups represented, and they all felt that that would be the best plan.

It was then decided that another meeting be arranged for as soon as possible on account of the pending bills in the Legislature, and that a representative from each group be chosen for the next Conference, at which time a definite plan could be worked out. This meeting has already been held.

H. M. LANDESMAN, M.D., *Chairman.*

EXAMINATION FOR POSITION IN NEW YORK

January 14, 1936.

Editor, *New England Journal of Medicine,*

This Commission is soon to proceed with an examination for the important position of Assistant Director of the Bureau of Health Education at $5500 per annum in the New York City Health Department.

The success of this examination depends in a great measure upon the number of well-qualified persons who compete therein. May we have your personal assistance and coöperation in bringing this examination to the attention of qualified candidates?

The dates for the receipt of applications have been extended from January 14 to February 11, 1936.

WM. H. ALLEN, *Secretary,*
Municipal Civil Service Commission,
Municipal Building, Manhattan,
Centre and Chambers Streets,
Fourteenth Floor.

THE AMERICAN PSYCHOANALYTIC ASSOCIATION

January 15, 1936.

Editor, *New England Journal of Medicine,*

I have the honor to inform you that The American Psychoanalytic Association, founded in 1910, met in Boston, December 28, at which time it adopted a new constitution. The American Psychoanalytic Association, now a Federation of the American Psychoanalytic Societies, has as its membership the Boston Psychoanalytic Society, the Chicago Psychoanalytic Society, the New York Psychoanalytic Society and the Washington-Baltimore Psychoanalytic Society.

The following officers were elected: Honorary President, A. A. Brill, M.D. (New York); President, C. P. Oberndorf, M.D. (New York); Vice-President, Isador H. Coriat, M.D. (Boston); Secretary, Ernest E. Hadley, M.D. (Washington, D. C.), and Treasurer, Leo H. Bartemeier, M.D. (Detroit).

The scientific program consisted of papers entitled:

"Humor and Hypomania" by Isador H. Coriat, M.D.

"A Contribution to the Psychogenesis of Migraine" by Frieda Fromm-Reichmann, M.D.

"The Omission of Grief: Contributions to the Psychology of Effects" by Helene Deutsch, M.D.

"Envy of the Mother and the Wish to Take from Her" by Catherine L. Bacon, M.D.

"Psychoanalytic Aspects of Some Gynecological Disorders" by Karl Menninger, M.D.

"A Case of Compulsive Masturbation" by John A. P. Millet, M.D.

Sincerely yours,

ERNEST E. HADLEY, *Secretary.*

RECENT DEATH

MAHONEY—FRANCIS X. MAHONEY, M.D., for more than twenty years health commissioner of Boston,

died on January 14, at the Deaconess Hospital, after an illness of several weeks. He was sixty-four years old.

Born in Boston, Dr. Mahoney attended Boston College and Holy Cross, receiving his degree in medicine from Harvard University. He was appointed to the board of health in 1910 by Mayor John F. Fitzgerald, becoming head of the department in 1914, and continuing in that capacity until his death, except during the administration of Mayor Peters.

His long and eminent service in the health department witnessed striking reductions in infant mortality, typhoid fever and diphtheria, and the establishment of the health units in various sections through the income of the George Robert White Fund.

Dr. Mahoney was a member of the American Medical Association, the Massachusetts Medical Society, the American Public Health Association, the Massachusetts Association of Boards of Health, the Harvard Club of Boston, the Elks, Foresters, and New England Pilgrim Fathers. He is survived by his widow, and two brothers, Lt. George Mahoney of the Boston police force, and John Mahoney, chief food inspector of the health department.

NOTICES

WORCESTER CANCER CLINIC

COÖPERATING WITH THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

The Diagnostic Cancer Clinic will be held each Wednesday at 11 A.M. at Memorial Hospital Out-Patient Building.

A group of physicians who are specialists in particular fields will be present at each clinic and careful reports will be sent to the referring doctors.

ERNEST L. HUNT, M.D., *Chairman.*

MEDICAL CLINIC AND STAFF ROUNDS AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P.M. on Thursday, January 30, in the Amphitheatre of the Peter Bent Brigham Hospital, Dr. Henry A. Christian, Physician-in-Chief, Hersey Professor of the Theory and Practice of Physic in the Harvard Medical School, will give a medical clinic. To it are cordially invited practitioners and medical students.

On Saturdays in the wards of the Peter Bent Brigham Hospital, from 10 to 12, staff rounds will be conducted by Dr. Christian.

REPORTS AND NOTICES OF MEETINGS

NEW ENGLAND HEART ASSOCIATION

The November meeting of the New England Heart Association was held at the Boston City Hospital on the evening of November 25.

Dr. Samuel A. Levine opened the meeting with a short address and then turned it over to Dr. Soma Weiss who presented the first of a series of interesting and instructive papers. His subject was a "Demonstration of Pathological Specimens." The first specimen was a heart from a case of rheumatic heart disease in which there was a very extensive stenosis of the mitral valve and a marked "fish mouth" appearance. A dissecting aortic aneurysm was then shown, remarkable in that it had ruptured back into the aorta, thus establishing two main vessels in that region. A fairly strong wall had been formed for the new passage and the patient lived for about a year after the acute episode, at which time he had had epigastric pain with cardiac failure. Two specimens from cases of bicuspid aortic valves were shown, in one of which there was a terminal history of subacute bacterial endocarditis.

In the other case there were extensive partially calcified vegetations on the valve leaflets and Dr. Weiss felt that this might represent an old healed subacute bacterial endocarditis. Congenital bicuspid aortic valves usually give no murmurs unless subacute bacterial endocarditis is present. The fourth demonstration was of two unusual congenital malformations; one with constriction of the pulmonary conus and a communication just above the intraventricular septum; the other with four leaflets in the pulmonary valve. The last specimen was from a case of subacute bacterial endocarditis in which there were vegetations in both the right and left sides of the heart. In life there had been a loud double murmur in the pulmonic area.

The subject of the second paper of the evening was "Amyloid Heart" and was delivered by Dr. Kenneth Mallory. In about 24 per cent of cases of chronic pulmonary tuberculosis there is some amyloid deposited within the heart musculature as well as in other organs, but this is not extensive enough to cause heart failure. A second type involves the tongue, heart, and smooth muscle of the gastro-intestinal tract. Ten cases of this type have been reported and three of these died of cardiac failure, but no such cases were found in the pathological records of the Boston City Hospital. There is also a third group in which the amyloid is found only in the heart musculature, and there have been four such cases recorded in the Boston City Hospital. These cases were described in detail by Dr. Mallory and he showed several lantern slides to demonstrate the histopathology. There may be a focal or diffuse amyloid infiltration and in one case the infiltration was in the intraventricular septum alone and caused Stokes-Adams attacks with heart block. Dr. Mallory concluded with the statement that amyloid disease of the heart, either primary or secondary, may contribute to or even cause cardiac failure.

Dr. L. B. Ellis spoke on the "Mechanism and Treatment of Postural Hypotension." The normal adaptation to the upright position is chiefly carried

out by peripheral vasoconstriction which maintains the blood pressure. In certain conditions this adaptation is not adequate and the systolic pressure falls and syncope results. In the majority of cases this is not due to a failure of the vasomotor reflex but rather to deficient tone of the skeletal or vascular musculature leading to pooling of blood in the periphery. The mechanism of postural hypotension, however, is different. Here there is a failure of the vasomotor reflex to operate. In cases of this condition there is a marked fall in the systolic and diastolic blood pressures and the rate of the heart may not change at all on assuming the upright position. Although only twenty-six cases of this condition have been reported in the literature, in the last two years six cases have been seen in the Boston City Hospital, indicating that the condition is probably more common than has been believed. A careful study of two of these cases showed the total blood flow and cardiac output to be essentially normal when standing, in spite of the drop in blood pressure.

There are multiple causes for this failure of the vasomotor reflex. The condition is not infrequently associated with disease of the central nervous system and four of the six Boston City Hospital cases had such disease: two cases of tabes dorsalis; one of syringomyelia; and one of transection of the spinal cord. A study of the postural blood pressure reflex in cases of combined system disease and tabes dorsalis showed little that was abnormal in the first group but ten of the seventeen cases with tabes dorsalis showed an unusual drop in the systolic or diastolic pressures on assuming the upright position. One of the cases showed amyloid disease of the cortex of the adrenals and some of the cases in the literature had Addison's disease.

Treatment of postural hypotension consists of the following: first, the treatment of the underlying cause where that is possible; secondly, mechanical measures such as bandaging the legs; and thirdly, drugs, the most important of which is ephedrine sulphate in doses of three-eighths of a grain three or four times a day. Although ephedrine usually relieves the symptoms, it frequently does not change the abnormal fall in pressure.

"The Significance of Precordial Leads in Cardiac Infarction" was the subject of a paper by Dr. James M. Faulkner. The evolution of characteristic electrocardiographic patterns following acute cardiac infarction was illustrated graphically. In fifty-one cases with electrocardiograms characteristic of infarction, the changes were present only in the precordial lead throughout. Correlation of electrocardiographic signs with the particular coronary arteries occluded was better than with the site of the infarct as designated by the "anterior" or "posterior" wall of the left ventricle. It was suggested that the terms "anterior" and "posterior" were unsatisfactory for this purpose because the heart was not fixed but liable to rotation on its longitudinal axis. In discussion, Dr. Paul White suggested that the terms "apical" and "basal" be substituted for "anterior" and "posterior" respectively, as more accurately expressing the location of the infarcts which give the two distinct types of electrocardiograms.

Dr. Soma Weiss spoke on "Recent Observations on the Functional Properties of the Vascular System and on the Hemodynamics in Arterial Hypertension." In primary hypertension, although the pressure within the arteries and arterioles is above normal, that of the capillaries and veins is not increased. This suggests that the arterial hypertension is a readjustment to an increased peripheral resistance. The hemodynamics of this problem have been reinvestigated recently at the Boston City Hospital, and it has been found that the cardiac output, blood volume, and velocity of flow are all normal even when the pulse pressure is high. Therefore the blood supply to the tissues is not increased.

Dr. Myron Prinzmetal then discussed "The Nature of the Peripheral Resistance in Arterial Hypertentension with Special Reference to the Vasomotor System." In the investigations at the Boston City Hospital, the blood flow through the tissues of the arm in patients with arterial hypertension and in normal subjects has been found to be about the same. Since the head of pressure forcing the blood through the vascular bed is greater in hypertensive cases, the peripheral resistance must be greater than normal when the blood flow is the same. This indicates that the increase in peripheral resistance in arterial hypertension is general and not localized to the splanchnic area. By studying the tissue blood flow before and after the arm had been put into hot water, it was found that the increase in flow was normal in hypertensive subjects, suggesting that there are no obstructing organic changes in the arm vessels of the hypertensive. Direct blocking of the vasomotor nerves to the arm by novocaine injection led to the same increase in flow in both normals and hypertensives. This indicates that the increased peripheral resistance in arterial hypertension is not vasomotor but must be intrinsic in the vessels themselves, and for this reason the common surgical procedures for the relief of hypertension do not appear logical. Four cases of coarctation of the aorta were studied in a similar way and a definite increase of four times the normal increase in blood flow through the arm was found after novocaine block; so that the arterial hypertension in the upper extremities in coarctation is felt to be a physiological compensation, vasomotor in origin.

Dr. McGinnis read Dr. M. S. Segal's paper on "The Electrocardiogram in Bacterial Endocarditis as Contrasted with Rheumatic Carditis." In a comparative study of the irregularities occurring in these two conditions as seen in cases at the Boston City Hospital between 1900 and 1934, auricular

fibrillation had an incidence of forty-eight per cent in rheumatic heart disease and only two per cent in subacute bacterial endocarditis. Flutter was also much less frequent in subacute endocarditis. There was a prolonged conduction time in thirty-seven per cent of the rheumatic carditis cases, and this occurred in only seven per cent of the cases of subacute endocarditis. The same is true of gallop rhythm and premature beats.

Dr. R. W. Wilkins presented a paper on "The Significance of Differential Venous Pressure Measurements" by Dr. E. B. Ferris, Jr. A simple apparatus for determining venous pressures was demonstrated. Femoral venous puncture for this and other purposes is simple and at times is the only method of administering intravenous therapy or of withdrawing blood without resorting to surgery. The femoral vein lies about one centimeter medial to the artery at a depth of about two and one-half centimeters in the femoral triangle. Venous pressure is normally four to ten centimeters of water and anything above twelve is abnormal. Pressure in the femoral vein represents the pressure in the inferior vena cava; that in the antecubital veins represents pressure in the superior vena cava. One or both may be elevated unilaterally or bilaterally, and the combined measurement offers an excellent method of localization. Mediastinitis, with fibrosis or mediastinal tumor, often causes superior vena cava obstruction. Ascites may cause a femoral pressure of 40 to 50 centimeters of water. Right-sided cardiac failure causes increased venous pressure in both legs and arms.

Dr. Weiss delivered the last paper of the evening on "Malignant Hypertension of the Pulmonary Circuit." Dr. Parker and he have studied the minute structure of the normal and pathological lung. Several excellent colored slides were shown. The normal alveolus has four layers in its wall: the capillary endothelium, two basement membranes, and the epithelial lining of the alveolus. In mitral stenosis the number of capillaries is not only increased, but their diameter is three times normal and their walls are much thicker with an increase in the number of collagen fibres and a pericapillary edema. These abnormal vessels easily rupture which explains the pulmonary hemorrhage that occasionally occurs in these patients. The arterioles of the lung in mitral stenosis were frequently found to be almost obstructed by fibroblast-like cells. Dr. Weiss spoke of this process which may have the character of a necrotizing arteriolitis due to hypertension of the pulmonary circuit and compared it with the arteriolar changes in the kidney in arterial hypertension of the systemic circuit.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

At a meeting of the Middlesex East District Medical Society held January 8, at the Bear Hill Golf Club, Stoneham, Mass., Dr. William E. Browne of the Surgical Staff of the Carney Hospital spoke on treatment of infections and injuries of the hand and demonstrated the use of new splints used in such cases.

There were sixty members present.

Opposition to the Annual Registration of Physicians in Massachusetts

At this meeting it was unanimously voted that the Society go on record as opposing the bill for the Annual Registration of Physicians. Councilors of the Massachusetts Medical Society who were present were so instructed.

Kenneth L. Maclachlan, *Secretary*,
Middlesex East District Medical Society.

SUFFOLK DISTRICT MEDICAL SOCIETY
BOSTON MEDICAL LIBRARY

8 Fenway

Joint Meeting at the Boston Medical Library on Wednesday, January 29, 1936, 8:15 P.M.

"Observations Around the World". Walter B. Cannon, M.D.

James M. Faulkner, M.D.,
Charles C. Lund, M.D.,
Secretaries.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

Meeting on Wednesday, January 29, 1936, at the Hotel Commander, Cambridge.

Luncheon at noon.

Short but important business meeting after the luncheon.

Speaker: Dr. A. Warren Stearns, Dean of the Tufts College Medical School.

Topic: "The Rôle of the Situation in Nervous Disease."

Alexander A. Levi, M.D., *Secretary.*

HAMPDEN DISTRICT MEDICAL SOCIETY

The regular Winter Meeting of the Society will be held in the rooms of the Springfield Academy of Medicine, 20 Maple Street, Springfield, on Tuesday, January 28, 1936, at 4:15 P.M.

PAPER FOR THE AFTERNOON

"Thrombosis in Veins as a Complication of Medical and Surgical Diseases."—Dr. John Homans of the Peter Bent Brigham Hospital.

Discussion by Fellows.

Dinner at 6 P.M. at expense of the Society.

Hervey L. Smith, *Secretary and Treasurer.*
249 Union Street, Springfield.

CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

The 1936 annual Clinical Congress of the American College of Surgeons will be held in Philadelphia. October 19-23.

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the Peter Bent Brigham Hospital Amphitheatre (Shattuck Street Entrance), Tuesday evening, January 28, at 8:15 P.M.

PROGRAM

Presentation of Cases.

Reactions to Ovarian Hormones. By Edgar Allen, M.D., Yale University.

Medical students and physicians are cordially invited to attend.

MARSHALL N. FULTON, M.D., *Secretary.*

NEW ENGLAND HEART ASSOCIATION

The next meeting of the New England Heart Association will be held at the Beth Israel Hospital, Boston, Mass., Monday, February 3, 1936, at 8:15 P.M.

PROGRAM

1. A Case of Coronary Occlusion with Interesting Features. Dr. Harry B. Levine.
2. Evaluation of Medicinal Treatment of Angina Pectoris. Dr. Joseph E. F. Riseman.
   Studies on the Effect of Nitroglycerin on Angina Pectoris. Dr. Morton G. Brown.
3. Incidence of Coronary Heart Disease and Hypertensive Heart Disease in Different Population Groups. Dr. Louis Silver.
4. The Cardiac Output in Patients with Congestive Failure after Total Thyroidectomy. Dr. Mark D. Altschule.
5. A Clinical and Pathologic Study of Aortic Stenosis. Dr. Louis Wolff and Dr. Monroe Schlesinger.
6. A Summary of Clinical Experience in the Treatment of Chronic Heart Disease by Total Thyroidectomy. Dr. Herrman L. Blumgart.

All members of the New England Heart Association and interested physicians are invited to attend.

JAMES M. FAULKNER, M.D., *Secretary.*

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING MONDAY, JANUARY 27, 1936

Tuesday, January 28—

*9-10 A.M. Boston Dispensary, 25 Bennet Street, Boston. X-Ray Demonstration. Dr. Alice Ettinger.

2:30 P.M. Pediatric Ward Visit. Massachusetts Eye and Ear Infirmary.

*8:15 P.M. Harvard Medical Society. Peter Bent Brigham Hospital Amphitheatre (Shattuck Street Entrance).

Wednesday, January 29—

*9-10 A.M. Boston Dispensary, 25 Bennet Street, Boston. Pediatric Case Presentation. Dr. Francis McDonald.

†12 M. Clinico-Pathological Conference. Children's Hospital.

5 P.M. Arthritis Clinic. Robert Breck Brigham Hospital.

*8:15 P.M. Suffolk District Medical Society joint meeting with the Boston Medical Library at the Boston Medical Library.

Thursday, January 30—

*8:30-9:30 A.M. Clinic, Surgical and Orthopedic Staffs of Children's Hospital, at the Children's Hospital.

*9-10 A.M. Boston Dispensary, 25 Bennet Street, Boston. Case Histories in Brain Tumors. Dr. J. J. Skirball.

*3:30 P.M. Medical Clinic at the Peter Bent Brigham Hospital.

Friday, January 31—

*9-10 A.M. Boston Dispensary, 25 Bennet Street, Boston. The Heart and Aorta in Chronic Hypertension. Dr. Paul Dudley White.

12 M. Massachusetts General Hospital, Clinical Meeting of the Staff of the Children's Medical Service. Ether Dome.

Saturday, February 1—

*10-12. Staff rounds at the Peter Bent Brigham Hospital.

Sunday, February 2—

4 P.M. Free Public Lecture, Harvard Medical School, Building D, Longwood Avenue. The Prevention and Treatment of Physical Diseases of the Mouth. Dr. L. M. S. Miner.

*Open to the medical profession.
†Open to Fellows of the Massachusetts Medical Society.

January 23—Massachusetts General Hospital. Forty Years of X-Ray. 8:15 P.M., Moseley Memorial Building.

January 27—Springfield Medical Association, 8:30 P.M. at the rooms of the Springfield Academy of Medicine, 20 Maple Street.

January 28—Harvard Medical Society. See notice elsewhere on this page.

January 30—Medical Clinic at the Peter Bent Brigham Hospital. See page 178.

February 3—New England Heart Association. See notice elsewhere on this page.

February 14—William Harvey Society, 8 P.M. Beth Israel Hospital, Boston.

February 24 to May 16—International Medical Postgraduate Courses in Berlin. See page 1211, issue of December 12, 1935.

March 2-6—The American College of Physicians. See page 91, issue of January 9.

June 15-19—The Executive Board of the Catholic Hospital Association will meet at the Fifth Regiment Armory, Baltimore, Md.

September, 1936—First International Conference on Fever Therapy. See page 1325, issue of December 26, 1935.

October 19-23—Clinical Congress of the American College of Surgeons. See page 180.

DISTRICT MEDICAL SOCIETIES

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

February 5—Council Meeting, Boston.

February 12—Wednesday. Addison Gilbert Hospital, Gloucester. Clinic 5 P.M. Dinner 7 P.M. Speaker and subject to be announced later.

March 4—Wednesday. Lynn Hospital. Clinic 5 P.M. Dinner 7 P.M. Speaker: Dr. Timothy Leary. Subject: Arteriosclerosis.

April 1—Wednesday. Essex Sanatorium, Middleton. Clinic 5 P.M. Dinner 7 P.M. Speaker: Dr. Richard H. Overholt of the Lahey Clinic. Subject: Chest Surgery.

May 7—Thursday. Censors' Meeting.

May 13—Wednesday. Annual Meeting. Salem Country Club. Dinner at 7 P.M. Speaker: Dr. Paul White. Subject to be announced later.

R. E. STONE, M.D., Secretary.
88 Lothrop Boulevard, Beverly.

FRANKLIN DISTRICT MEDICAL SOCIETY

Meetings are held on the second Tuesday of March and May at the Weldon Hotel, Greenfield, at 11 A.M.

CHARLES MOLINE, M.D., Secretary.
Sunderland.

HAMPDEN DISTRICT MEDICAL SOCIETY

January 28—See page 180.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

Meetings to be held at the Bear Hill Golf Club, Stoneham, at 12:15 P.M.

March 11, May 6.

K. L. MACLACHLAN, M.D., Secretary.
1 Bellevue Avenue, Melrose.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

January 29—See page 180.

NORFOLK DISTRICT MEDICAL SOCIETY

January 28—Hotel Kenmore at 8 P.M. Subject: "Compulsory Sickness Insurance."

February 25—Massachusetts Memorial Hospitals at 8 P.M. Papers by the staff.

March 31—Hotel Kenmore, at 8 P.M. Dr. Benedict F. Boland—"Cauterization of the Cervix Uteri Using Various Electrical Methods." Illustrated with lantern slides.

May—Annual Meeting. (Place, date and subject to be announced.)

The censors meet for the examination of candidates: May 7, 1936; November 5, 1936.

FRANK S. CRUICKSHANK, M.D., Secretary.
1236 Beacon Street, Brookline.

PLYMOUTH DISTRICT MEDICAL SOCIETY

March 19—Plymouth County Sanatorium, South Hanson.

April 16—Brockton Hospital.

May 21—Lakeville State Sanatorium.

G. A. MOORE, M.D., Secretary.
167 Newbury Street, Brockton.

SUFFOLK DISTRICT MEDICAL SOCIETY

January 29—Joint meeting with the Boston Medical Library. See page 180.

March 18—Meeting at the Boston Medical Library. "The Laboratory and Clinical Story of Fatigue," Dr. Arlie V. Bock and Dr. David B. Dill. Discussion: Dr. Donald J. MacPherson and Dr. Augustus Thorndike, Jr.

April 29—Annual Meeting at the Boston Medical Library. "The Treatment of Septicaemia," Dr. Champ Lyons. "The Pleurality of Scarlatinal Streptococcus Toxin," Dr. Sanford B. Hooker. Discussion: Dr. Hans Zinsser.

The medical profession is cordially invited to attend all of these meetings.

ROBERT L. DeNORMANDIE, M.D., President,
CHARLES C. LUND, M.D., Secretary,
FRANCIS T. HUNTER, M.D.,
Boston Medical Library.

WORCESTER DISTRICT MEDICAL SOCIETY

February 12—Wednesday evening. Worcester State Hospital, Worcester, Mass. Dinner and scientific program. Subjects of program to be announced later.

March 11—Wednesday evening. Memorial Hospital, Worcester, Mass. Dinner and scientific program. Subjects of program to be announced later.

April 8—Wednesday evening. Hahnemann Hospital, Worcester, Mass. Dinner and scientific program. Subjects of program to be announced later.

May 13—Wednesday afternoon and evening. Annual Meeting of Society. Time, place and details of program to be announced in an April issue of the Journal.

ERWIN C. MILLER, M.D., Secretary.
27 Elm Street, Worcester.

BOOKS RECEIVED FOR REVIEW

Demonstrations of Physical Signs in Clinical Surgery. Hamilton Bailey. 287 pp. Fifth Edition, Revised. Baltimore: William Wood & Company. $6.50.

Localized Rarefying Conditions of Bone as Exemplified by Legg-Perthes' Disease, Osgood-Schlatter's Disease, Kummell's Disease and Related Conditions. E. S. J. King. 400 pp. Baltimore: William Wood & Company. $7.50.

The Radiology of Bones and Joints. James F. Brailsford. 571 pp. Second Edition. Baltimore: William Wood & Company. $9.00.

The Special Procedures in Diagnosis and Treatment. An Outline for Their Understanding and Performance. Don Carlos Hines. 66 pp. Stanford University: Stanford University Press. $1.00.

The Patient and the Weather. William F. Petersen. Volume I. Part I. 127 pp. Ann Arbor: Edwards Brothers, Inc. $3.75.

A. B. C. of the Endocrines. Jennie Gregory. 126 pp. Baltimore: The Williams & Wilkins Company. $3.00.

Complete Handbook on State Medicine. J. Weston Walch. 158 pp. Portland: Debaters Information Bureau. $2.50.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles. Edited by Louis Hamman. Volume 4, forty-fifth series, 1935. 331 pp. Philadelphia, Montreal and London: J. B. Lippincott Company.

The Parathyroids in Health and in Disease. David H. Shelling. 335 pp. St. Louis: The C. V. Mosby Company. $5.00.

Essentials of Psychopathology. George W. Henry. 312 pp. Baltimore: William Wood & Company. $4.00.

New Pathways for Children with Cerebral Palsy. Gladys Gage Rogers and Leah C. Thomas. 167 pp. New York: The Macmillan Company. $2.50.

Short Wave Therapy and General Electro-Therapy. Heinrich F. Wolf. 96 pp. New York: Modern Medical Press. $2.50.

BOOK REVIEWS

A Textbook of Bacteriology. Thurman B. Rice. 551 pp. Philadelphia and London: W. B. Saunders Company. $5.00.

This short textbook of bacteriology covers the field in a fairly adequate manner for elementary students of the field. It is, however, insufficient in its considerations of the subject to satisfy the medical student or physician who turns to it for information. Thus, the Brucella group is dismissed in five pages and the paratyphoid in less than three. The first ten chapters are devoted to a brief introduction of bacteriology and methods of staining, cultivation and disinfection.

Traitement des Fractures et Luxations des Membres. Jacques Leveuf, Charles Girode et Raoul-Charles Monod. 447 pp. Paris: Masson et Cie. 50 fr.

This textbook by the pupils of Professor Pierre Delbet is the outgrowth of thirteen years' experience in teaching the treatment of fractures and dislocations to medical students at the Hôpital Bretonneau. It is written in a clear and simple manner, with excellent illustrations of the various therapeutic procedures. There is no bibliography and practically no discussion. The methods used differ very little, with few exceptions, from those in common use in the United States. The most striking departure, on the whole commendable, is the widespread advocacy of constant traction in most ingenious fashion, for the reduction of both fractures and dislocations. The book, designed chiefly for medical students, is written in a somewhat dogmatic manner. It should prove to be a most useful textbook, as well as a helpful book of reference for practitioners.